

Home Computing WEEKLY

An Argus Specialist Publication

August 16-22, 1983 No. 24

38p

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VIC-20 and BBC**

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battle among
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— page 9

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Boots to stock more micro products

The Boots chain has announced plans for a major expansion of its home computer coverage. By the end of September, it aims to have home computers, peripherals, and an extensive range of software in 250 of its major stores — and 32 of them will have a special computer department with a computer consultant in attendance.

From September, most Boots stores will stock the ZX81, Spectrum, Dragon, VIC-20 and Commodore 64, a range of peripheral equipment including cassette

Continued on page 5

Felix takes a bow at Acorn show

Felix is out to rival Horace as a character in computer games.

He will make his first appearance, complete with flat cap, at next week's Acorn User show.

Program Power is bringing out the first two of a range of £7.95 games for the BBC model B micro which feature the new character.

In Felix and the Fruit Monsters his mission is to protect fruit from

Continued on page 5

COMING SOON

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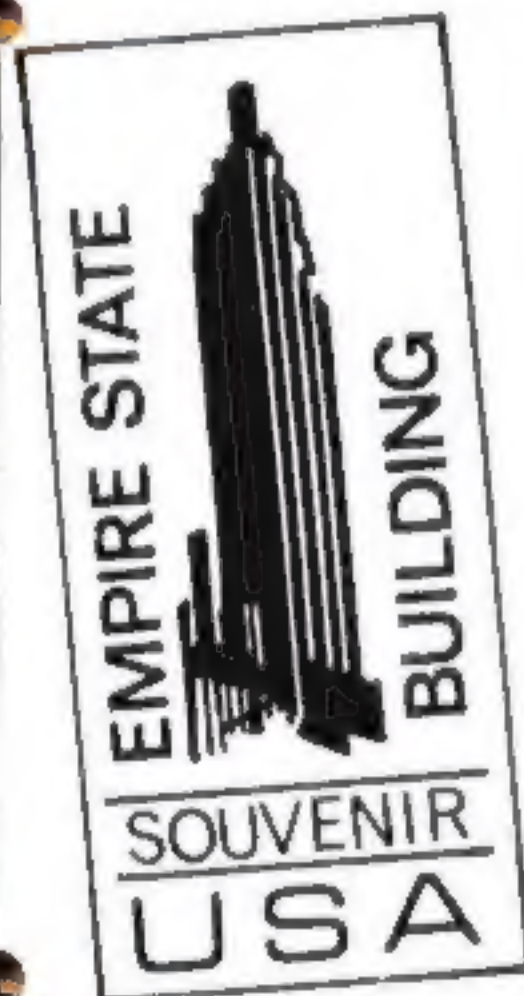
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The Top 10 programs for the ZX81 — page 11



The latest from America is on page 11



Reviews of Spectrum software are on pages 8, 17 and 23



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Programming your Oric?
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Your garden's a battleground
when you type in the TI-99/4A
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Soar into space with our
reviews on page 8

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New Generation Software

G.S.H.

New Generation Software FREEPOST Bath BA2 4TD

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A new series of books which introduce newcomers to the most widely used micros in the marketplace.

The books assume absolutely no knowledge about computers and the reader is shown even the most fundamental operations such as "switching on" and "loading a program". The books lead the reader through simple programming and then onto graphics, with several programs which show how to achieve pictures and even animation. The books contain a number of specially written programs which show the full potential of these machines.

"The text is liberally supported by all manner of useful diagrams and illustrations (including many black and white photographs of the screen). The overall presentation is excellent. The printing, setting out and listings are clear and positively invite the reader to have a go."

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READ-OUT

HCW24



Felix

Continued from front page

garden monsters by carrying the fruit to a safe place and gassing the monsters.

And in Felix and the Factory his job is to keep a machine operating. He runs up ladders and along walkways oiling the machine and poisoning rats which threaten production.

Marketing assistant Christopher Payne said there would be at least two more arcade games in the series.

Program Power is also launching a two-player game for the BBC at £6.95, called Bandits at Three O'Clock.

Players are in control of bi-planes firing at each other. There is a choice of night or daytime flying and the hazards include murderous barrage balloons and a church spire.

The show is being held at the Cunard Hotel, Hammersmith, on August 25-28 and Acorn will be launching its new £199 computer, the Electron, based on its successful BBC micro.

Several companies will be showing software for the new computer, including Acornsoft with new versions of their BBC favourites, like Monsters, Snapper, Meteors and Starship Command, all at £9.20. Chess, Draughts, Reversi and Tree of Knowledge will also cost £9.20.

Electron versions of Lisp and Forth cost £16.10 each and Personal Money Management is £11.50.

Acornsoft is also showing several new games, all at £9.95, for the BBC micro. Freefall, Crazy Tracer, Carousel and Meteor Mission are arcade games, Kingdom of Hamil is an adventure and Drogna is a two-player game of logic.

R. H. Electronics will be releasing three new games at £8.95 each

— Ski Slalom, Galactic Wipeout and Viper. And there will be two three-in-one cassettes, priced at £7.50 each. All are for either model of the BBC micro. The company also has a light pen at £44.95.

Advanced Memory Systems is showing its three-inch disc drive — based on Hitachi mechanism — which costs £225 for the single disc version, storing 100K on each side and with a claimed access time of three milliseconds. Twin drives are £399.

• dk'tronics will not be at the show, but the company has just brought out BBC versions of its two Spectrum tapes, both at £6.95. They are Dictator, a role playing game, and an arcade game called Proteans.

Boots

Continued from front page

recorders, disc drives, printers and memory expansion, and more software than ever.

The major stores will also stock the BBC micro and as many as 350 different software titles, including some disc-based software.

But Terry Steel, Boots' public relations director, denied that Boots was changing its image. "Far from it. If you look at home computer in the context of our established business in audio and photographic equipment, it's a natural move.

"This is quite simply an expansion of the departments we've been having for quite a while."

Nor will any of Boots' existing product lines be edged out by micros. Space for the new departments will be made by rearranging existing areas.

Boots plans to have trained staff on hand at all its outlets that stock computers, but Mr Steel admitted that training was "a big problem".

He said: "We're taking it gradually and steadily. We have a standard computer training course run by our training department which all staff in the 250 stores that will stock computers have taken part in.

"We're also recruiting outside people with experience of selling computers for the top 30 stores, and they will be going through a more intensive course.

"We see training as a process of gradual increase in experience by our staff as they become more familiar with the machines. We've made considerable strides

already, and we propose to continue along the same lines."

Commenting on the Boots initiative, Stewart Binnie, merchandise controller for W. H. Smith, said: "We share their perception of the marketplace, and in consequence are already selling computers in 250 branches. We plan to open more computer shops-within-shops before Christmas."

Programs are on the books

Pan Books and Personal Computer News have got together to bring out a range of computer books.

The first four, due out next month, will each contain 40 programs for the BBC micro, Dragon, Spectrum and Oric and will be the first of its Bumper Book of Programs series.

In November its series called the Definitive Companion and Instant Arcade Games begin and more are planned for next year.

Pan Books, Cavaye Place, London SW10 9PG

Microdrive latest

The first batch of Microdrives were due to be despatched to Spectrum owners last week, said Sinclair Research. A high proportion of people sent order forms decided to take up the offer, said the company.

It would be continuing to control the number of units offered so the company could keep to its promise of delivery in 28 days. *Sinclair Research, Stanhope Road, Camberley, Surrey*

You could be on our pages

We welcome programs articles and tips from our readers.

PROGRAMS should, if possible, be computer printed to a width of 48 characters (use a new ribbon) and/or sent on cassette. Check carefully that they are bug-free. Include details of what your program does, how it works, variables you have used and hints on conversion.

ARTICLES on using home computers should be no longer than 2,000 words. Don't worry about your writing ability — just try to keep to the style in HCW. Articles most likely to be published will help our readers make better use of their micros by giving useful ideas, possibly with programming examples. We will convert any sketched illustrations into finished artwork.

TIPS are short articles, and brief programming routines which we can put together with others. Your hints can aid other computer users.

Competitive rates are paid.

Keep a copy of your submissions and include an SAE if you want them returned. Label everything clearly and give a daytime and home phone number if you can.

Paul Liptrot, Home Computing Weekly, 145 Charing Cross Road, London WC2H 0EE



Acorn's 32K Electron — launched at the show

Mr. Chip

SOFTWARE

VIC 20 GAMES AND UTILITIES

BUGSY (Joystick Only)

This is a Minefield with a difference as you step on the stones whilst collecting purple boxes which give you both time and points, they disappear from beneath your feet. **DO NOT DESPAIR!** "BUGSY" will randomly replace the stones but avoid bumping into him or its sudden death! An original compulsive and challenging game. £5.50

JACKPOT

This is it, the ultimate fruit machine for the VIC with nudge, hold and respin 100% machine code. "Overall Jackpot is a beautifully written simulation giving superb graphics, animation and use of colour. In fact, this program makes Commodore's fruit machine cartridge look unbelievably cheap & nasty" Home Computing Weekly No. 20, 19/7/83. £5.50

MINI-ROULETTE — PONTOON — HI-LOW

Three great games of chance for the VIC, try to beat the computer, hours of fun, full colour, sound effects and tunes. £5.50

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Full documentation with all utility programs.

Other software available for the VIC and Commodore 64, send for free brochure, including **RABBIT SOFTWARE** at £5.99 each.

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Dept HCW, 1 NEVILLE PLACE, LLANDUDNO, GWYNEDD, LL30 3BL. Tel: 0492 49747

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ALIEN ODDESSY:

A four-part adventure game. This tape contains the first two parts, in which you must escape from the Castle, then journey across the Great Grass Plains to the Mountains of the Moon. Hi-res graphics and text. £9.95

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You are the Captain of a Starship. You have to buy a cargo, and attempt the inter-stellar jump to your destination. But beware, meteors and space pirates are out to get you. Text. £5.95

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DRAGON

TI-99/4A

for SPECTRUM 48

DATABASE (DRAGON)

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SURPRISE (DRAGON)

Regain the magic ring, but to do so you must first find the key to the Tower, avoid robbers, and more. Then bewitch the Dragon, and you're home and dry — almost. Hi-res graphics and text. £8.45

SCANNER 13 (DRAGON)

Set in the City of the future, this game combines the best elements of both arcade and adventure games. Destroy the evil Drones before they destroy you and your City. Three levels of difficulty. Hi-res graphics and text. £8.45

BOPSWIZZLE (DRAGON)

A splendid fun game! Beat the ghastly Gloops and the yucky Yerkies, amongst other nefarious nasties. Collect pearls at the same time! Low and hi-res graphics and text. £5.95

AMAZING (DRAGON)

Series of five mazes specially for the under 5's ranging from quite simple to fairly complex. An excellent way to amuse pre-school children, and they learn from it too. Hi-res graphics. £5.95

ALONE AT SEA. FOR THE TI99/4A (TI-99/4A)

Try and escape the sinking ship, but don't forget your supplies which are hidden somewhere. Text. £6.50

K-64 (TI-99/4A)

A mind-bender. Cover the squares once only using the knight and its valid moves. Easy?! Full graphics. £6.50

MYSTERY MANOR. FOR THE SPECTRUM (SPECTRUM)

Find the murderer before he (or she) finds you and your career as Detective Solvitt! Graphics and text. £6.50

MASTER CODE. FOR THE SPECTRUM (SPECTRUM)

Based on the famous game. Try your skill against the computer. You CAN beat it. Graphics and text. £6.50

The promises behind the symbol



This symbol will soon be appearing on software cassettes, showing that they are backed by the charter of the new Guild of Software Houses.

As first revealed in Home Computing Weekly nine weeks ago, major software houses have got together to form GOSH, prompted by Quicksilva.

The secretary is Mike Johnston, best known for organising the highly popular ZX Microfairs.

GOSH chairman Nick Alexander, boss of Virgin Games, said: 'We were looking for someone who had administrative experience, was closely involved in the industry and had a neutral standpoint.'

Vice-chairman of GOSH is Rod Cousens, managing director of Quicksilva, and treasurer is Dougie Berne, of Silversoft.

Each is paying £500 a year for membership. Mr Alexander said: 'We are not sure how many we will attract. We are not after numbers, we want people who will abide by the charter.'

Mr Alexander is also an official of the Computer Trade Association, to which the guild is affiliated.

Eventually GOSH plans to have a full-time office and build up a fighting fund to crack down on software piracy — one of the reasons which led to the guild's formation.

The main guarantees in the guild's Customer's Charter are:

- A high technical standard, with faulty goods replaced free and promptly.
- Mail orders despatched within 28 days.
- Action on complaints within five working days.
- No goods advertised before they are available.

Action would be taken against any member failing to live up to the charter, which could mean a fine or, ultimately, expulsion.

*Guild of Software Houses,
Guild of Software Houses,
71 Park Lane, Tottenham,
London N17 0HG*

New micro takes a bow

A new £300 computer will make its first public appearance next month.

British designed and made, the Elan will have 64K of RAM, a real keyboard and a range of software available when it goes on sale in March or April next year.

The Elan range was designed at Intelligent Software but Elan Computers is backed by a consortium of British and foreign investors.

Three directors of IS have a minority interest.

In fact, IS already had a computer on the drawing board when the company was approached with an offer.

IS is best known for programs like Cyrus-IS-Chess, marketed by Sinclair for the Spectrum, because the chairman is the well-known chess champion David Levy, 38.

And Elan's marketing director Michael Shirely, 42, said he expected contracts to be signed with major retailers within a week or two.

Other products, like peripherals, were in the pipeline.

The Elan will make its public debut at the Great Home Entertainment Spectacular at Olympia, starting on September 17. Then it goes on show at the PCW show at the Barbican, beginning on September 28, and at Brainwave, held at Birmingham's National Exhibition Centre, from November 4.

Elan Computers' chairman is Lachu Mahtani and the managing director is M. L. Mirpuri. Both run an import-export company at the same north London address as Elan.

Elan Computers, 31-37 Hoxton Street, London N1 6NJ

My family caught the micro bug

IT ALL started with computer studies. Not mine, my daughter's. At the time, I just thought it would be useful for her to get up to date with new technology. But of course, that was just the beginning...

Her friends had microcomputers, so she caught the bug — and brought it home. I had never really noticed the computer ads in the papers or colour supplements before; I was usually too busy trying to hunt down the articles. Now I started to sit up and take notice.

At that point I took another critical step — I bought my first computer magazine. It was followed by another, then another, then another. Each purchase was greeted by cries of "Are we getting a computer, then, Dad?"

• • •

I was certainly thinking about it — and my bank account. The BBC programme was running at that time, and I was receiving inputs from everywhere and trying to make sense of them all.

Meanwhile, my daughter had been looking at various computers and had decided it must be a Spectrum. I managed to look knowledgeable. "Mmmm, a Spectrum." In conversation with a friend, I mentioned the subject in passing, and was quickly put in my place: "Oh, we bought one last week!" Still, they'd had a ZX81 for ages; they were old hands at the game.

The next step came when they invited us over to view a Spectrum in the flesh, or plastic. We were hooked. Mind you, PEEK, POKE, READ and INVERSE looked just as bewildering on the keyboard as they did in the magazines. But the twenty pence jar had been filling up slowly, and there was just enough in there to cushion the shock to the bank account. It was time to take the plunge.

Is it really 1.30 in the morning? As you'll gather, we bought the little black box (all that money for that, commented my wife), and I'm now in the throes of ploughing through the manual. Is it me, or are the chapters out of sequence? They don't give you an introduction to the keyboard until the end of the book.

• • •

The three children are still happy to program games out of the pile of magazines. Well actually, the youngest just plays the games. Even at this early stage we are having to operate a rota system so that everyone gets a go. But why is it I am on permanent midnight shift?

As a beginner, I've found that the best approach is to buy all the magazines you can lay your hands on and piece all the information together.

I'm still finding my way round the keyboard, but at least I understand all the functions now, and I've managed to get myself on a residential course on simple programming starting next week — which is back to where it all started I suppose. I have seen the light... now for the illumination.

Rod Pickles
Radar technician
Plymouth
Devon

• This space is for you to have your say about the micro scene as to comment, or to present bouquets or hurl brickbats. Share your views by sending them to Paul Liptrot, Opinion, Home Computing Weekly, 145 Charing Cross Road, London WC2H 0EE. Please include your occupation and your interest in computing.

Soar into space and back in time

Adventure lurks within your micro — if you pick the right program. Our reviewers return from some strange places to rate these games for you

Caveman Adventure BBC £6.95

Program Power, 8/Ba Regent St, Chapel Allerton, Leeds LS7 4PE

Frustrating at first but the game then becomes addictive. Effective use of colour, and a picture if one progresses far enough, maintain interest; and the sounds of running water and the odd growl help the player to avoid danger.

I would have preferred not to have been forced into an end game situation as quickly, and as often as I was at first. But you quickly learn to hang on to your life for longer as you get used to the programmer's sense of humour.

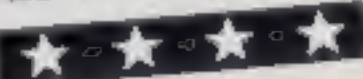
The game starts in a cave with

may exits. The aim is to guide the caveman back to his tribe without falling foul of the many dangers of a wild and primitive world: wild animals, river journeys, deserts and mountains.

On your travels you find various objects which could be useful in overcoming the hazards. It is up to you to decide if it is worth picking them up, but remember that the most unlikely objects can be useful in the most unlikely situations.

The tape loads easily and excellent use is made of the function keys.

	J.D.
instructions	80%
playability	90%
graphics	n/a
value for money	80%



Scanner 13 Dragon 32 £8.45

Bamby Software, Leverburgh, Isle of Harris PA83 3TX

The world was attacked by carnivorous Flutter Drones and so a network of towers was built with a powerful scanner weapon. The menace was defeated, the towers decayed, but now the drones are back and only you and the one working tower — scanner 13 — can destroy them. But first, you must discover how to work it!

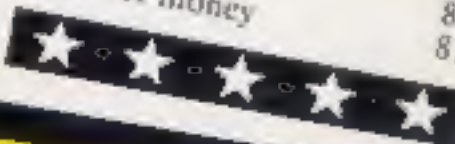
This is described as a graphic adventure game but is actually more arcade orientated. Written in BASIC, it nevertheless produces good sound and colourful, effective graphics. The response to the player is good, screen

display and error trapping is excellent.

The scenario was given after a first time load, along with a page of "advice" on controls. There are three skill levels and nine controls (effectively seven because two controls are to repeat scenario and advice screens).

Much of the fun is in deciphering the displays, although once mastered there is plenty of action in trying to destroy the drones, air mines, etc. without being annihilated yourself (and you only have a limited amount of energy!)

	R.E.
instructions	83%
playability	95%
graphics	88%
value for money	81%



Death Satellite Oric-1 £6.90

A & F, 830 Hyde Road, Manchester M18 7JD

Death Satellite is a text adventure, similar to A & F's Zodiac in style, in which your time capsule, out of fuel, has landed on a satellite.

Your task is to find a new fuel supply and escape from all the terrors present on what proves a most unfriendly satellite. Just 10 key words are contained in the instructions supplied, but there are many more within the program which you have to find yourself.

It seems easy at first, but there are many places to explore, and many dangers to overcome, in-

cluding robots, a huge mutant rat and a large daisy. Objects may be carried or dropped to help your cause.

All too often you die at the hands of the mutant rat, radiation sickness or the daisy, or are sucked out into space. After many hours of searching, I am still seeking the elusive fuel.

But that makes Death Satellite all the more absorbing and provides the right amount of challenge to keep trying — even in the early hours of the morning!

	S.A.
instructions	50%
playability	80%
graphics	n/a
value for money	75%



The Valley 48K Spectrum £11.75

ASP Software, 145 Charing Cross Road, London WC2

The Valley is an attractive adventure game in which you have to successfully cross a landscape to enter a wooded or swamp area of your choice and penetrate a castle in search of a magic helm.

On the way you may find hidden treasure, or be attacked by a legion of monsters. Fighting them and any injuries sap your strength, and although you usually win the nasties keep on coming.

During play the lower part of the screen shows scores, strengths and a blow by blow text account of combat. The upper shows one of three displays, a map, the castle grounds or the

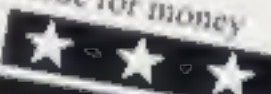
castle interior, as each stage reached.

The graphics are good, but the monsters are not visible — just everywhere.

The program loaded easily, but did not autorun, so the colourful well-labelled listing is easy to get at. An early invitation to position the tape and load was puzzling, but refers to the option to save your present score and have a breather.

A wide range of monsters and weapons, and random-generated layouts ensure a different game each time. You can choose grades of difficulty during the game, and the monsters get nastier nearer the target.

	H.C.
instructions	70%
playability	90%
graphics	60%
value for money	50%



Zodiac Oric-1 £6.90

A & F Software, 830 Hyde Road, Manchester M18 7JD

Zodiac is a text adventure in which you have to explore the 12 houses of the Zodiac, along with a maze, as well as killing the Ice Giant and fire-eating dragon.

In addition, you have to pick up useful objects along the way, and use and then drop them as you make progress.

The usual NESW and up and down commands are available, but in addition, to make Zodiac an absorbing, but frustrating adventure, there are a number of key words that you must discover for yourself.

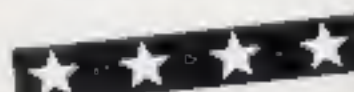
One of the most difficult is how to get past the bull in the

House of Taurus — a problem which I wrestled with for a long time, along with a friend who has the same program.

We eventually solved that one, but so far we have not been able to overcome the obstacle of the Ice Giant.

It looks as if it will take many more hours of keyboard work before Zodiac is eventually solved, but if you cannot make progress, A & F will provide clues.

	S.A.
instructions	50%
playability	75%
graphics	n/a
value for money	70%



Down in the garden there's a battle among the lettuces

How it works

100-290 set colours, define characters
300-340 draw fence
350-440 set score to 0; produces random positions for lettuces, checking position is not already occupied. Number of lettuces can be changed in line 380
450-580 decide random start position for snail and slug, making sure these are not already occupied
590-620 main loop directing program to 'move snail' and 'move slug' subroutines
780-810 get character from screen to determine whether planned move will cross trail, hit fence or eat lettuce
820-860 draw new position of snail then return to main loop
870-1020 calculate scores depending on move made by snail
1030-1170 move slug routine
1180-1210 get character from screen to determine whether planned move will cross a trail, hit fence or eat a lettuce
1220-1260 draw new position of slug; return to main loop
1270-1420 calculate scores depending on move made by slug
1430-1600 subroutine to check whether slug or snail has scored 30 points or more. If winner is decided game ends with message and a chance to try again
1610-1670 subroutine to print statements and scores

In this game for two players you are the slug and your opponent is the snail. The setting is a vegetable patch where you must attempt to eat as many lettuces as you can to gain points.

The problem is that you both leave a sticky trail which neither of you can cross — if you do your opponent will score a point.

At the start of the game the vegetable patch appears, surrounded by its fence. Thirty lettuces sprout up at random. The position of the slug and snail are also randomly assigned.

As these creatures move about a blue trail appears for the slug and a red trail for the snail. When a lettuce is eaten — by guiding your slug/snail onto it — you score two points and your score appears on the allotment fence.

If you cross your own or your opponent's trail, bump into the fence or your opponent, then one point is added to your opponent's score. The game ends with victory for the first player to win 30 points.

Your vegetable patch may seem peaceful, but your lettuces are under attack by a slug and a snail. Choose your side in this two-player game for the TI-99/4A by Jackie Willis

```

100 REM SLUGS AND SNAILS
110 REM BY J.V. WILLIS
120 REM define characters
130 CALL CLEAR
140 FOR I=1 TO 11
150 CALL COLOR(I,16,2)
160 NEXT I
170 CALL COLOR(12,2,2)
180 CALL COLOR(13,3,2)
190 CALL COLOR(14,9,2)
200 CALL COLOR(15,6,2)
210 CALL COLOR(16,11,2)
220 CALL SCREEN(2)
230 CALL CHAR(128,"185A7E7E7E7E3C18")
240 CALL CHAR(152,"9966669999666699")
250 CALL CHAR(136,"00000C0C5E9EFEFF")
260 CALL CHAR(137,"55000824240B0055")
270 CALL CHAR(144,"4224183C3C3C3C18")
280 CALL CHAR(145,"A5000000000B00A5")
290 CALL CLEAR
300 REM SET UP SCREEN
310 CALL HCHAR(1,1,152,32)
320 CALL VCHAR(2,1,152,23)
330 CALL VCHAR(1,32,152,23)
340 CALL HCHAR(24,1,152,32)
350 SCORE1=0
360 SCORE2=0
370 RANDOMIZE
380 FOR L=1 TO 30
390 N1=INT(RND*29)+2
400 N2=INT(RND*21)+2
410 CALL GCHAR(N2,N1,GET)
420 IF GET=128 THEN 390
430 CALL HCHAR(N2,N1,128)
440 NEXT L
450 X=INT(RND*29)+2
460 Y=INT(RND*21)+2
470 CALL GCHAR(Y,X,GET)
480 IF GET=128 THEN 450
490 R=X
500 S=Y
510 CALL HCHAR(Y,X,136)
520 X1=INT(RND*29)+2
530 Y1=INT(RND*21)+2
540 CALL GCHAR(Y1,X1,GET)
550 IF (GET=128)+(GET=136) THEN 520
560 R1=X1
570 S1=Y1
580 CALL HCHAR(Y1,X1,144)
    
```

Hints on conversion

CALL CLEAR clears screen
CALL SCREEN(B) sets screen colour according to value of B
CALL COLOR(A,B,C) determines colours of characters, where A is the character set, B becomes the colours of those characters and C the background colour
CALL CHAR(D,"E") command used for re-defining characters, where D is the ASCII character code and E the hexadecimal code
CALL HCHAR/VCHAR/Y,X,Z,N will produce character Z on the screen starting at row Y in column X and repeating N times horizontally if CALLING HCHAR, or vertically if CALLING VCHAR. The Texas graphics screen is 24 rows by 32 columns, starting at 1,1 in the top left corner
CALL KEY(O,K,b) scans the keyboard to find whether a key K has been pressed
CALL GCHAR(Y,X,Z) gets character Z from screen in row Y and column X
CALL SOUND(DUR,FR,V) produces a sound of duration DUR milliseconds, at a frequency of FR (or a noise if -FR) of volume V

Movements of the slug and snail are controlled from the keyboard — with the alpha lock on — as follows:

Slug:
S left
D right
E up
X down

Snail:
K left
L right
O up
comma down

If your opponent is holding down a key when it's your turn, the game comes to a temporary halt until the key is released. This is so that no player takes more turns than he or she is entitled to!

Variables

SCORE1 snail's score
SCORE2 slug's score
N1,N2 random co-ordinates of lettuces
X,Y co-ordinates of snail
X1,Y1 co-ordinates of slug
R,S co-ordinates of snail's trail
R1,S1 co-ordinates of slug's trail
ROW,COL co-ordinates for printing scores and messages

```

590 REM MAIN LOOP
600 GOSUB 640
610 GOSUB 1040
620 GOTO 600
630 REM MOVE SNAIL
640 CALL KEY(0,K,STATUS)
650 IF K=79 THEN 700
660 IF K=44 THEN 720
670 IF K=76 THEN 740
680 IF K=75 THEN 760
690 GOTO 640
700 Y=Y-1
710 GOTO 770
720 Y=Y+1
730 GOTO 770
740 X=X+1
750 GOTO 770
760 X=X-1
770 IF (Y<1)+(Y>24)+(X<1)+(X>32) THEN 860
780 CALL GCHAR(Y,X,GET)
790 IF GET=32 THEN 820
800 IF GET=128 THEN 870
810 GOTO 950
820 CALL HCHAR(Y,X,136)
830 CALL HCHAR(S,R,137)
840 S=Y
850 R=X
860 RETURN
870 SCORE1=SCORE1+2
880 CALL SOUND(50,-6,2)
890 N$="SNAIL:"&STR$(SCORE1)
900 ROW=24
910 COL=1
920 GOSUB 1630
930 GOSUB 1440
940 GOTO 820
950 SCORE2=SCORE2+1
960 N$="SLUG:"&STR$(SCORE2)
970 CALL SOUND(100,-2,2)
980 ROW=1
990 COL=20
1000 GOSUB 1630
1010 GOSUB 1440
1020 GOTO 820
1030 REM MOVE SLUG
1040 CALL KEY(0,K,STATUS)
1050 IF K=69 THEN 1100
1060 IF K=88 THEN 1120
1070 IF K=68 THEN 1140
1080 IF K=83 THEN 1160
1090 GOTO 1040
1100 Y1=Y1-1
1110 GOTO 1170
1120 Y1=Y1+1
1130 GOTO 1170
1140 X1=X1+1
1150 GOTO 1170
1160 X1=X1-1
1170 IF (Y1<1)+(Y1>24)+(X1<1)+(X1>32)
    THEN 1250
1180 CALL GCHAR(Y1,X1,GET)
1190 IF GET=32 THEN 1220
1200 IF GET=128 THEN 1270
1210 GOTO 1350
1220 CALL HCHAR(Y1,X1,144)
1230 CALL HCHAR(S1,R1,145)
1240 S1=Y1
1250 R1=X1
1260 RETURN
1270 SCORE2=SCORE2+2
1280 CALL SOUND(50,-6,2)
1290 N$="SLUG:"&STR$(SCORE2)
1300 ROW=1
1310 COL=20
1320 GOSUB 1630

```

```

1330 GOSUB 1440
1340 GOTO 1220
1350 SCORE1=SCORE1+1
1360 CALL SOUND(100,-2,2)
1370 N$="SNAIL:"&STR$(SCORE1)
1380 ROW=24
1390 COL=1
1400 GOSUB 1630
1410 GOSUB 1440
1420 GOTO 1220
1430 REM CHECK FOR WINNER
1440 IF SCORE1>29 THEN 1470
1450 IF SCORE2>29 THEN 1510
1460 GOTO 1610
1470 CALL HCHAR(Y,X,136)
1480 CALL HCHAR(S,R,137)
1490 N$="WELL DONE! THE SNAIL HAS WON."
1500 GOTO 1540
1510 CALL HCHAR(Y1,X1,144)
1520 CALL HCHAR(S1,R1,145)
1530 N$="WELL DONE! THE SLUG HAS WON."
1540 ROW=12
1550 COL=2
1560 GOSUB 1630
1570 PRINT ""
1580 INPUT "PLAY AGAIN?(Y/N) " A$
1590 IF A$="Y" THEN 290
1600 END
1610 RETURN
1620 REM PRINTING SCORES AND MESSAGES
1630 FOR I=1 TO LEN(N$)
1640 C=ASC(SEG$(N$,I,1))
1650 CALL HCHAR(ROW,(COL-1)+I,C)
1660 NEXT I
1670 RETURN

```

EDITORIAL ASSISTANT

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Due to promotion, *Computing Today* is seeking an Editorial Assistant. The person we are looking for is an accurate worker with a sense of humour who will be able to maintain the high standards of the magazine while keeping to deadlines. Knowledge of program assessment, development and debugging is required, both in BASIC and machine code/assembly language (preferably for the Z80 and/or 6502). Applicants should be able to express themselves in English but no journalistic experience is necessary: training in technical journalism will be provided.

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Top Ten programs for the VIC-20

- | | | |
|----|----------------|----------------|
| 1 | Arcadia | Imagine (3) |
| 2 | Wacky Waiters | Imagine (2) |
| 3 | Panic | Bug Byte (6) |
| 4 | Asteroids | Bug Byte (5) |
| 5 | Cosmiads | Bug Byte (4) |
| 6 | Catcha Snatcha | Imagine (1) |
| 7 | Laser Zone | Llamasoft (-) |
| 8 | Gridrunner | Llamasoft (-) |
| 9 | Alien Blitz | Audiogenic (9) |
| 10 | Matrix | Llamasoft (-) |

Compiled by Boots. Figures in brackets are last week's positions

Top Ten programs for the Dragon-32

- | | | |
|----|----------------------|----------------|
| 1 | Mountain | Dragon (1) |
| 2 | Basic Tutorial | Ampalsoft (2) |
| 3 | Personal Finance | Dragon (3) |
| 4 | Special Collection 1 | Dragon (4) |
| 5 | The King | Microdeal (5) |
| 6 | Space War | Microdeal (8) |
| 7 | Android Attack | Microdeal (6) |
| 8 | Nightflight | Salamander (9) |
| 9 | Planet Invasion | Microdeal (7) |
| 10 | Katerpillar Attack | Microdeal (-) |

Compiled by Boots. Figures in brackets are last week's positions

Top Ten programs for the Spectrum

- | | | |
|----|------------------------|----------------------|
| 1 | Jet Pac | Ultimate (1) |
| 2 | Scrabble | Psion (-) |
| 3 | Transylvanian Tower | Richard Shepherd (2) |
| 4 | Flight Simulation | Psion (3) |
| 5 | Horace and the Spiders | Psion/M House (5) |
| 6 | Ah Diddums | Imagine (-) |
| 7 | Penetrator | Melbourne House (7) |
| 8 | Psst | Ultimate (8) |
| 9 | Mad Martha | Microgen (10) |
| 10 | Horace Goes Skiing | Psion/M. House (4) |

Compiled by W. H. Smith. Figures in brackets are last week's positions

Top Ten programs for the ZX81

- | | | |
|----|-------------------|----------------|
| 1 | Football Manager | Addictive (2) |
| 2 | Defender | Quicksilva (3) |
| 3 | Flight Simulation | Sinclair (4) |
| 4 | Scramble | Quicksilva (1) |
| 5 | 1K Games | Sinclair (6) |
| 6 | 1K Chess | Sinclair (5) |
| 7 | Fantasy Games | Sinclair (7) |
| 8 | Space Raiders | Sinclair (-) |
| 9 | Planet of Death | Sinclair (-) |
| 10 | Espionage Island | Sinclair (9) |

Compiled by Boots. Figures in brackets are last week's positions

U.S. SCENE

Now software is in chains

I don't know how it is where you are, but over here many conventional book stores have either begun to sell software for popular personal and home computers or are seriously studying the idea. For example, one of the largest chain store booksellers here — B Dalton with over 700 stores — has been marketing software in roughly 50 test outlets.

Latest product to be marketed by them is *Wordvision*, a word processor by Bruce and James that runs on the Commodore 64. I believe that this is a trend that will continue to expand as more and more people become exposed to the variety of low cost versatile home computers presently available.

Even the movie companies are interested in the home computing market. Here's one example. A new bi-monthly magazine called *Microkids, The Magazine For Kids Who Love Computers* and is targeted for children between the ages of 10 and 16, has just been brought out as the first product of the newly established Warner Software division of Warner Publishing, which of course is a subsidiary of Warner Communications Inc. (formerly Warner Brothers film studios).

The new software division will be publishing and distributing (not licensed it) home management, education, productivity, and entertainment software. Just like everyone else.

BSR, well known maker of stereo and home security-related equipment, has decided to enter the home computer market. Its first product is called the *X 10 MicRobot*, which is fundamentally a hardware-software package which enables a microcomputer to control every electrical item in a home from one central point.

BSR will be introducing this product under its own name, but the initial offering comes in the form of a privately labeled device made for the Mattel Aquarius home computer, and called the *Aquarius Command Console*.

I suppose that BSR felt they were really toying a market by releasing their products make adapters that allowed their stand-alone electrical outlets controlled by personal and home computers.

When the firm debuts its own products, these will be expected to run on all major brand personal and home machines. Expected list price about \$75. This for the console alone.

In addition to the console, special adapters, located at wall sockets or light switches to be controlled, are also required. These cost approximately \$16 each. The controller sends signals over the electric power lines to turn the desired adapters on and off either manually or by computer control. The manual remote control systems have been available for some time over here and work quite well indeed.

Interested in knowing how the home market for educational software is doing over here? Strategic Incorporated, of San Jose, California, was interested too. In the results of a recent survey they found that by 1990 consumers will be buying more educational software than will institutions, and that the combined sales in both marketplaces will reach approximately \$1.59 billion (thousand million) by then. Developed any neat educational programs lately? If so, the time is now to perfect it and get it on the market.

That's it for this week.
Bud Izen

Fairfield, California

Signs of the Wrong Zodiac

You reviewed my program Zodiac the other week. I, fortunately, whoever reviewed it has got confused with the other Zodiac that is sold by A&F Software.

The Tansoft Zodiac, for the price shown, does not begin in any way waste — and there are numerous sound effects which were not reported. At the same time some of the comments do fit my Zodiac and not the A&F program.

I do not suppose it really matters either way since the overall rating was average. But it would be nice to see a proper review of both Zodiacs.

Congrats on the best week by far — well worth the strange cover price. I've never seen it before.

Geoff Phillips, London NW9

Desperate? look Sharp

Regarding "Over Desperate's" letter in HCW 8, I can think of no electronic, electrical or mechanical gadget which takes kindly to tea or self inserted in its crevices.

I can think of only one humane way of dealing with brewers who chew tapes — keep them out of his way (they aren't very nutritious anyway).

For the rest, I have been using a micro for over a year (on an average of three hours a day without the slightest problem).

I have an integral screen (no connection problems with a TV which may not be compatible anyway) and a own integral cassette recorder (no level adjustment problems and, again, no tea in my leads).

I've called a Sharp MZ80B fairly expensive, but here's a 40k down-market version, the MZ80K which I have reason to believe equally reliable. The school one of my children goes to has had several Sharp MZ80ks for over two years and has never had a breakdown.

If "Over Desperate" has had no luck with these machines, I suggest he takes up another hobby.

I should add that I have no connection with Sharp — indeed, I have a fairly low opinion of their radios and TVs. But credit where it's due.

R. H. Hill, Woodford Green Essex

Send your letter to Letters, Home Computing Weekly, 145 Charing Cross Road, London WC2H 0EE. Don't forget to name your computer — the best letter could win £5-worth of software. Queries cannot be answered on this page



Play fair with Pharaoh's Tomb

With reference to your review of Pharaoh's Tomb in HCW 18, I would like to point out a couple of small advantages.

Who said the objects and scenes must be in different locations each time it is played? I don't see it to remember that was the case in The Hobbit, and all agree that is an excellent advertisement.

I have always looked on "seven tries as a play once and discard it" type of product. After all, you don't want to be stuck with a game that is so boring that it takes time to solve the problems and it is not that a challenge in an adventure, not collecting objects.

I assure you, I got exactly what I expected out of Pharaoh's Tomb, and at the price was more than satisfied. I would like to see how many other reviewers did your review actually complete the advertisement.

And in view of all the complaints about mail order companies, I would like to offer a bouquet to Phipps Associates. I bought a black and white copy of King's Quest — another excellent advertisement — expecting it to be the coloured version. I wrote to Phipps and received a coloured replacement, by return of post.

When I was stuck in Pharaoh's Tomb and phoned for assistance I got their answering phone service, so left my name and phone number, saying merely that I was stuck. I got a map and check sheet through my door the next day — someone had gone to the trouble of looking up my address in the files. So software companies are not all the uncaring villains that letter pages would have you believe.

Jacque Rycroft, Hallowell, Northants

Your reviewer's comment: If Jacque Rycroft is happy to be an advertisement and discard it, that's just enough — personally, I find money more scarce than his.

Having played several adventure games, I like the sort of adventure that asks and after all, the whole point of an adventure is that you don't know what you're going to get.

It's true that the objects stay in the same place each time you play The Hobbit, but that's because it follows Tolkien's book — a moment in real interest generated the fact that Thorin and Gandalf warble about unpredictable things.

I found the problems both the easy and the mazes — far more difficult in The Hobbit which I haven't managed to complete yet. Yes, I did complete Pharaoh's Tomb.

But as I said in my review, Pharaoh's Tomb is a reasonable priced

Pull your socks up

Your letters column contains many relevant points and opinions, which I read most carefully. I also like One Man's View. I am dismayed at the way in which software companies have abandoned the ZX81, which I own.

This computer was the cause behind many software titles appearing in the marketplace. Yet no software titles for Spectrum arrive there, no software titles appear for the 81. I am in favour of progress but hope software houses make a

Luckily, a few companies such as Artic are developing and selling new products. Other companies are relying on old stock. But old stock are needed now, not the 30 or so versions of Space Invaders that were first marketed.

Why won't Virgin Games, for example, market software for the ZX81? There are still hundreds of thousands of owners, and a new game might reach the majority of them.

I hope that quite a few of the High Street stores are selling their staff on the computer literacy course, as reported in HCW 12. One local store — part of a chain — has one-track employees.

I went there to enquire about the Jupiter Ace and was confronted by an assistant who asked me whether or not I wanted to play an arcade game, rather than if I needed help. When I said no, he seemed shocked, and when so annoyed I left the store without any information.

Why do people think that we teenagers are all button-pushing crazy?

R. Gill, Ains, York

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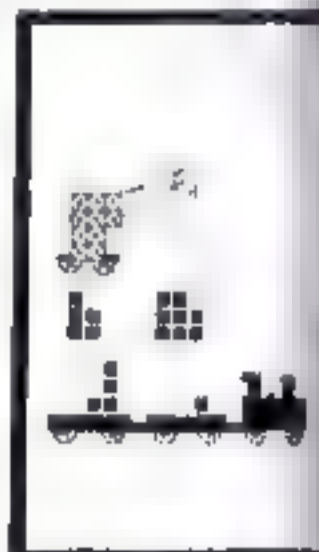
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HCW 4

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Code D = Dragon 32 T = Tandy S = Spectrum 16k or 48K

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Delve into hex with your Oric

See what Oric BASIC does to your program, says Paul Wilson

Hex Print was developed one evening to help me find out what Oric BASIC did with and to a program.

The program is extremely simple in layout and action and, although written on an Oric, is readily adaptable for any machine having BASIC. The only idiosyncrasy to be noted relates to Oric's handling of IF... THEN... ELSE.

Basically (sorry about that) it doesn't handle ELSE at all. Ok purists will point out that it does, sort of, but as far as I'm concerned it might as well not.

To use the program, it has to be given a start and an end address. Since I feel happier with hex addresses, either of these can be given as hex or decimal — just remember to prefix a hex number with the hash symbol.

The subroutines used are:

```

10 REM <<<< HEX PRINT >>>>
20 REM WOOKIE, 6 MAY 83
30 REM
40 REM
50 REM BETWEEN TWO ADDRESS VALUES IN HEX
60 REM
70 CHS "0123456789ABCDEF"
100 G...
105 G...
110 INT I... ADDRESS PLEASE...
120 G... B 4000:IF ER... THEN...
130 ST...
140 IF... THEN...
    
```

- 1000 instructions on using the program
- 2000 convert a decimal number to hex
- 3000 print the page heading
- 4000 validate the input addresses

When it is happy with the addresses you have given, the program will loop round expanding each byte to two hexadecimal characters, printing eight bytes per line.

Twenty-two lines are printed on a full screen, then the program wants for you to type a character before continuing. At this point, if you type Q the program ends there and then, otherwise it loops round to produce another page or as much as you asked for.

A full screen will consist of 176 bytes, a moderately round number in hex (#B0). The calls to machine code routines are to the monitor to suppress the keyboard (CALL #E6CA), and then to recommence scanning again (CALL #E604).

A couple of suggestions for use:

1 Start = #90
End = #580
This will show you how BASIC lays out the source of your program — the program actually occupies up to just after #B90 if you want to see it all.

2 Start = #B90
End = #C50
This will show the variable table at the end of the program.

As an experiment, add the line
91 AA% = 256

then run the program using the parameters in 2 above. Do you see how an integer variable is held?

One last point, the program will quite happily look at the screen RAM in HIRI S mode, but the display function will be drastically affected. The program can be modified to take account of this, but it would be quite a drastic change.

```

130 G...
140 G...
150 G...
160 G...
170 G...
180 G...
190 G...
200 G...
210 G...
220 G...
230 G...
240 G...
250 G...
260 G...
270 G...
280 G...
290 G...
300 G...
310 G...
320 G...
330 G...
340 G...
350 G...
360 G...
370 G...
380 G...
390 G...
400 G...
410 G...
420 G...
430 G...
440 G...
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460 G...
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730 G...
740 G...
750 G...
760 G...
770 G...
780 G...
790 G...
800 G...
810 G...
820 G...
830 G...
840 G...
850 G...
860 G...
870 G...
880 G...
890 G...
900 G...
910 G...
920 G...
930 G...
940 G...
950 G...
960 G...
970 G...
980 G...
990 G...
    
```

```

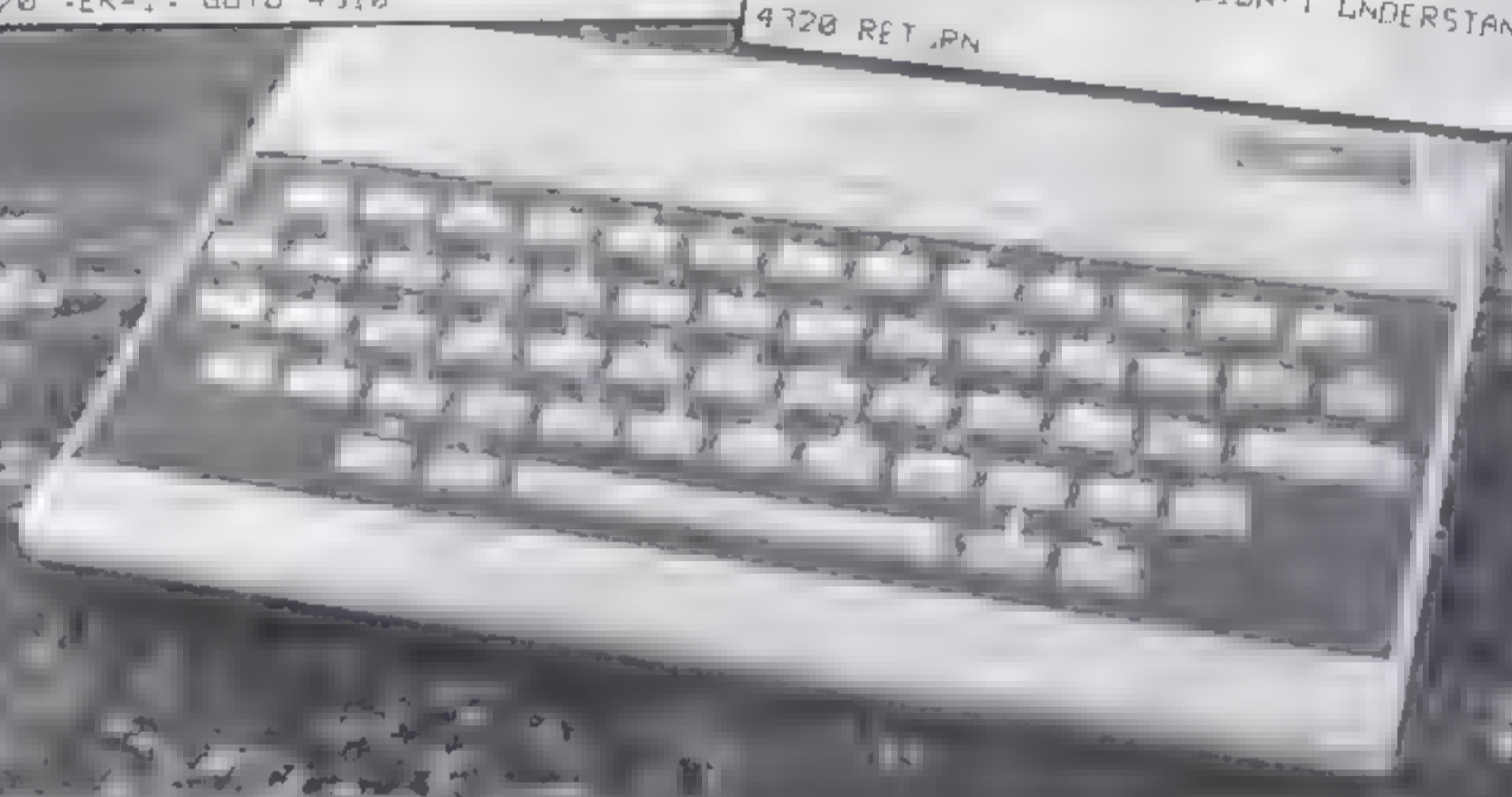
1010 PRINT" and end addresses of the are
1020 PRINT" be displayed. These address
1030 PRINT" can be in decimal or hexadec
1040 PRINT" If hex is used, prefix the
1050 PRINT" by #
1060 PRINT:PRINT" At the end of each pa
1070 PRINT" will wait, to quit, type Q,
1080 PRINT" other character will continu
1090 PRINT:PRINT
1100 RETURN
1110 REM
1120 REM
1130 REM
1140 REM
1150 REM
1160 REM
1170 REM
1180 REM
1190 REM
1200 REM
1210 REM
1220 REM
1230 REM
1240 REM
1250 REM
1260 REM
1270 REM
1280 REM
1290 REM
1300 REM
1310 REM
1320 REM
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2880 REM
2890 REM
2900 REM
2910 REM
2920 REM
2930 REM
2940 REM
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2970 REM
2980 REM
2990 REM
3000 REM
3010 REM
3020 REM
3030 REM
3040 REM
3050 REM
3060 REM
3070 REM
3080 REM
3090 REM
3100 REM
3110 REM
3120 REM
3130 REM
3140 REM
3150 REM
3160 REM
3170 REM
3180 REM
3190 REM
3200 REM
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3790 REM
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3810 REM
3820 REM
3830 REM
3840 REM
3850 REM
3860 REM
3870 REM
3880 REM
3890 REM
3900 REM
3910 REM
3920 REM
3930 REM
3940 REM
3950 REM
3960 REM
3970 REM
3980 REM
3990 REM
4000 REM
    
```

```

4010 IF LEFT$(I$ 1)=H THEN H=.MP-16
4020 FOR I H+1 TO LEN(I$)
4030 C=MID$(I$ I,1)
4040 :FOR J=0 TO 5
4050 IF MID$(CH$,J+1,1)=C$ THEN 4100
4060 NEXT J
4070 ER=. GOTO 4310
    
```

```

4100 IF H=0 AND J>9 THEN ER=. GOTO 4310
4110 :I=I+MP+J
4150 NEXT J
4300 RETURN
4310 PRINT SORRY, I DIDN'T UNDERSTAND T
HAT
4320 RET.PN
    
```



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Programs to put your mind to

If you're after a spot of mental exercise, this selection of software could be right up your street

Cyrus-15-Chess Spectrum £9.95

By Intelligent Software, from Sinclair Freeport, Camberley, Surrey GU15 3BR

Whether you're novice or a chess expert you'll enjoy this excellent tape. Suitable for the 16K and 32K B 48k, with few more features. There are eight playing levels or strengths plus three problem levels.

Very simple to use cursor operation takes care of moving pieces and even give you a chance to change your mind or take back a move. When making an incorrect move, an illegal sign will be displayed and also a buzz. Along with the tape you will

receive a very comprehensive user manual.

When learning you can opt for a demonstration game where the Spectrum makes all moves. On the 48K version, extra features include altering the colours, getting a printout of the game in progress or completed, and saving the game on tape.

The program levels allow you to instruct the computer to look for a mate in one, two or three moves, according to the level set or find by analysis that is possible.

instructions	100%
playability	80%
graphics	100%
value for money	95%



Quiz Pack Dragon-32 £3.95

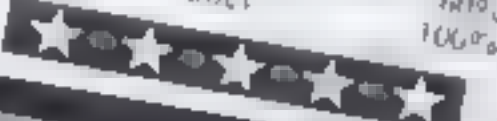
Shards Software, 10 Park Vale Court, Vane Way, Brentwood, Essex

Good value this one. Two programs for the price of one. The first word game. Here the computer chooses a random word from its memory and displays the appropriate clue. You are given a time limit to respond with a letter. If the answer is correct the letter is placed in the green. Unlike Hangman, if there are two letters the same only one is

prized. More points are scored the faster you complete the word. One possible area of confusion is that the clue cards suggest the software is suitable for all ages.

This is a side thing. Some of the words are quite complex. To cross the word program the computer does. In words and system contain crossword fashion. The display is clear and uncluttered and words are printed when the cursor is set at the head of a word. My only criticisms are that the cursor routine is slow and that the provision to set the answers is obtained by pressing the space bar which can be done by accident while playing. You can enter words of your own choice and clear instructions are provided to do this.

instructions	80%
playability	80%
graphics	100%
value for money	100%



Ringo Spectrum £5

Elephant Software, 41 Haymill Road, Burnham, Berkshire SL1 6NE

No this has nothing to do with the Beatles, although the game can be just as frustrating as some of their songs. If you think that the world holds no challenge for you since you solved Rubik's Cube, may I suggest Ringo.

Two intersecting rings are presented on the screen. Within these rings are a number of coloured beads. The idea is to sort these beads into colour groups by rotating the rings. Not as easy as it sounds.

This is an excellent and novel idea, but the limitations of the program spoil a somewhat

When a ring is rotated there is rather a long pause while the computer resorts the beads, and this detracts from the playability of the game.

However, the game is sufficiently well devised to remain addictive even if it is slow. I have still to solve the puzzle and unfortunately the Spectrum can't help me due to the lack of the 'solve' facility you might expect to find in a game of this type. Nevertheless, I'll keep trying...

instructions	50%
playability	65%
graphics	50%
value for money	60%



Chess BBC B £7.95

Program Power, 8 RA Regent Street, Chapel Allerton, Leeds LS7 4PL

I have never been beaten by a computer more than a very mediocre chess player. Apart from the fact that I was soundly beaten on every game the program is very readable and well presented.

The graphics display of the board is good although the very bright red and green become a little weary after a time. This is aggravated by screen flicker if you forget to turn off the interface before use.

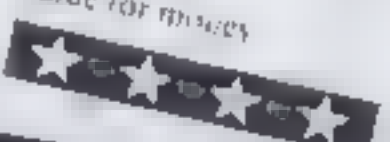
Moves are entered straightforwardly using the move standard algebraic notation. Illegal moves are rapped, and more advanced moves, casting and en passant,

are very easily carried out. Play is on a choice of six levels. I dread to think what level 6 is like.

As well as the standard game there are options for a 'chess' mode. They will be useful to the two who will appear to the experienced player. It is well to go over old games.

Instructions are provided in the correct format and are very brief but none the less adequate for those who take a ponder over played games tape.

instructions	80%
playability	80%
graphics	80%
value for money	80%



Concentrate Dragon 32 £5.95

Mk 1, 30 Painswick Road, Birmingham B78 3HF

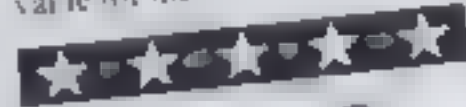
This is a game for two people matching pairs of cards from 28 dealt by the computer. There are 14 different designs randomly placed.

The game is extremely well set out and organised. It did keep me interested for some time but seemed to be getting easier. This may be, I rather suspect a credit to the program which has heightened my level of concentration and improved my ability to memorize.

A good educational aid I would have thought, with its interesting patterns steering clear

of the standard pack and its gambling connection! Quick to respond, fast paced and good fun.

instructions	95%
playability	95%
graphics	80%
value for money	75%



The trophy's yours if you win at Bagatelle

My game is based on Bagatelle, works on both models of the Spectrum and runs in a choice of three modes: fast, rapid and slow.

In the slow mode you can gain bonus points, but be careful not to stray off the right track and into the minefield.

How it works
 10-115 initialisation, call sub-routine to set up graphics, draw board
 120-400 move ball routine
 1000-1600 score routine, option to replay
 3000-3040 win routine, display trophy
 4020-4040 move routines
 4300-4600 instructions, select speed, display
 6000-6050 UDG DATA and loader

For all modes you have 10 goes, with an extra go each time you hit the 100. The object of the game is to score 1,000 points. And then your reward, a trophy, appears on the screen.

The highest score so far is recorded and displayed continuously.

I have used the full 24 lines of the Spectrum's screen and all the

GRAPHICS

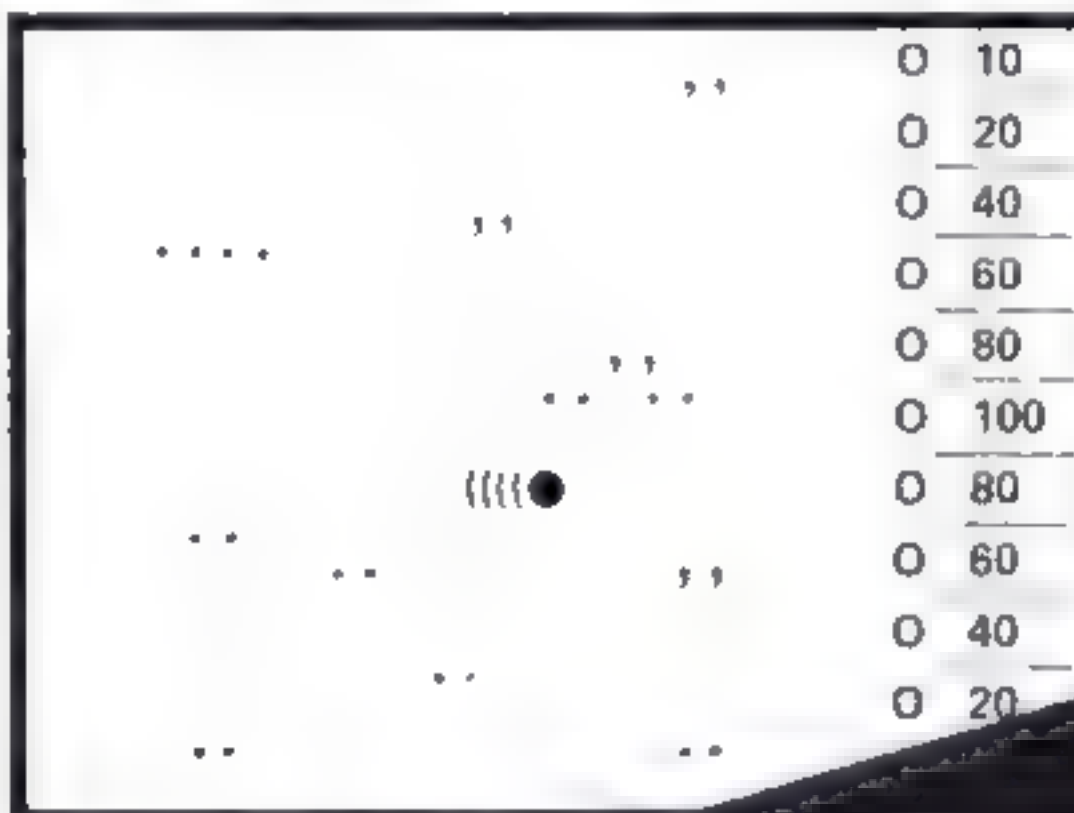
A = ●	E = .
C = .	D = I
F = .	F = M
G = B	H = M
I = M	J = M
K = V	L = M
M = V	N = .
O = I	P = .
Q = I	R = B
S = I	T = M
U = M	

Your guide to the graphics

Here's the computer version of that old favourite, Bagatelle. Written for the Spectrum by Thomas Goodchild, it gives you a choice of three speeds and bonus points. There's even a trophy for a high score



Your reward if you reach 1,000 points



GO 6 SCORE 50

Bagatelle in action

```

10 GO TO 25
15 BORDER 4, PAPER 4, INK 9
20 GO SUB 6000
25 LET hi=0000 LET LINE=4000
30 CLS GO SUB 4300 BORDER 4
  PAPER 4, INK 9
35 PRINT AT 2,11,"BAGATELLE";
  PRINT AT 8,3,"To start - P
PRESS ANY KEY"; AT 10,3,"To far
PRESS M PAUSE 0
CLS
    
```

Variables
 go counts tries (max 10)
 score counts and records score
 hi records and displays high score
 b vertical co-ordinate of ball — moves down automatically during play
 d horizontal co-ordinate of ball, fixed by pressing M and continues to move swiftly and smoothly after release (when in mode F)
 LINE call sub-routine to set speed F, K and S
 a,b,aa,bb co-ordinates of random hazards/bonus points in SLOW game
 d,e,k and r used to produce BFI PS and colour effects

21 user defined graphics character

There is no machine code as such. The data for the 21 UDG characters — lines 6010-6037 — is entered in hexadecimal (base 16) to save a lot of programming time and avoid the need for a), the commas. Each line is labelled with the character it contains.

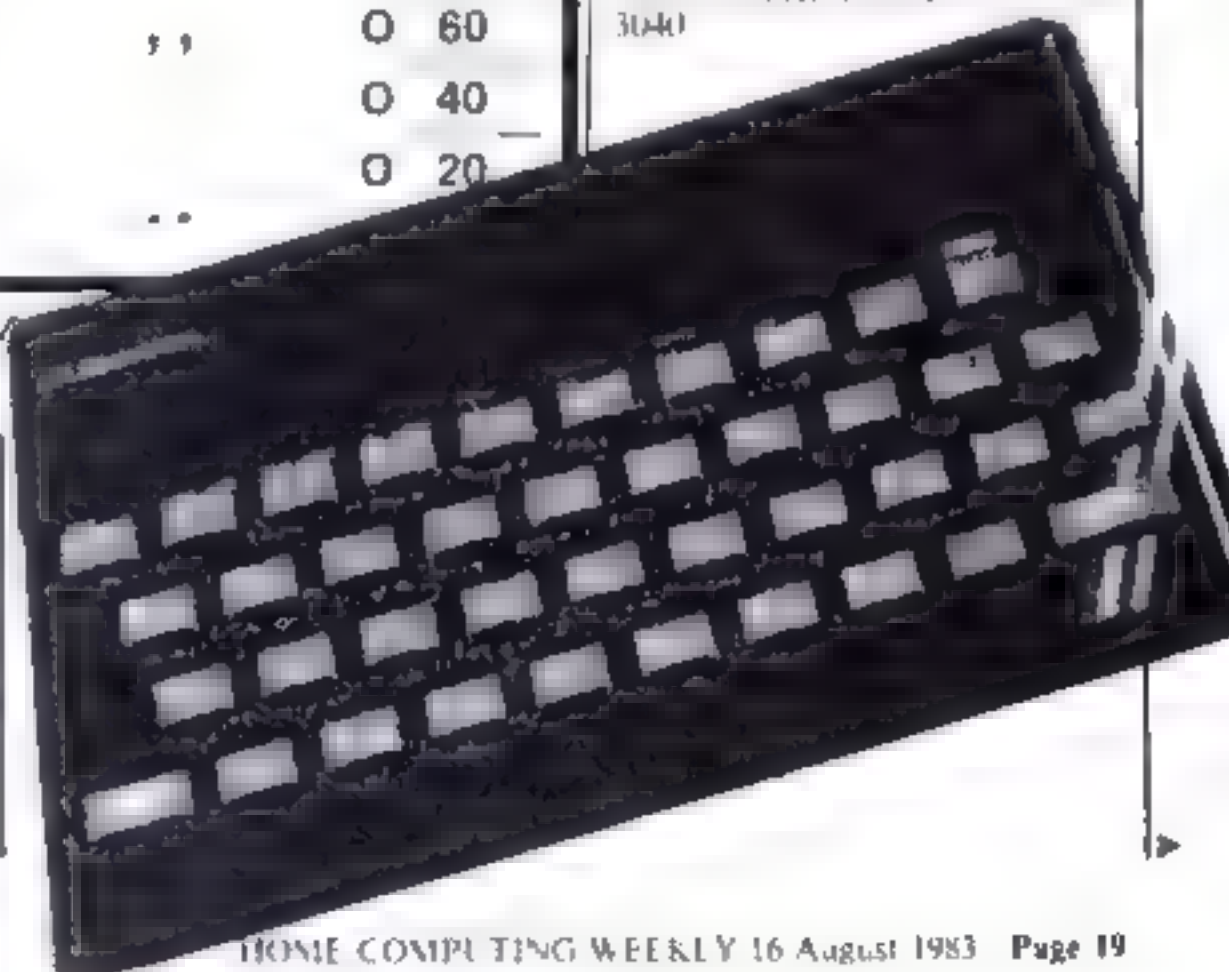
Lines 6018-6040 contain the new loader, which is a modified VASL routine. If you change the program and use fewer UDGs, don't forget to change the figure 21 in line 6018 to the new number of characters.

To see the positions of hazards and bonus points change the INK colour in lines 2015 and 2515.

In line 3040 the graphics characters, in order, are BCDEFGHI (GRAPHICS 8) JKL MNOPQRST (GRAPHICS 3) L.

A is the ball.

If you want to see the trophy, use the direct instruction GOTO 3040.



SPECTRUM PROGRAM

```

40 INK 9
45 LET SCORE=0000
50 LET GO=1: PRINT #1; AT 1,1;
INK 7; INVERSE 1; "GO:"; GO
55 PRINT AT 0,1; "
60 PRINT #0; AT 0,1; "
65 LET X=255: FOR Y=171 TO 11
STEP -16
70 PLOT X,Y: DRAW -45,0
75 NEXT Y
80 FOR U=1 TO 21: PRINT AT Y,0
1,"": NEXT Y
82 IF LINE=4000 THEN PRINT AT
0,31; PAPER 0; INK 7;"F"
83 IF LINE=4100 THEN PRINT AT
0,31; PAPER 0; INK 7;"R"
84 IF LINE=4200 THEN PRINT AT
0,31; PAPER 0; INK 7;"S"
85 DIM Z(1,11)
86 DIM Z(1,11)
90 LET Z(1,1)=10: LET Z(1,2)=2
0: LET Z(1,3)=40: LET Z(1,4)=60.
LET Z(1,5)=80. LET Z(1,6)=100:
LET Z(1,7)=80: LET Z(1,8)=60: LE
T Z(1,9)=40: LET Z(1,10)=20: LET
Z(1,11)=10
95 LET Q=1
100 FOR U=1 TO 22 STEP 2
105 PRINT AT U,25,Z(1,Q): LET Q
-Q+1 NEXT U
110 GO SUB 2000
115 GO SUB 2500
120 FOR P=1 TO 22 STEP 2: PRINT
AT P,25,"0": NEXT P
125 LET D=0: FOR B=0 TO 21
130 IF B<>0 AND B<=21 THEN PRIN
T AT B,0;"", AT B-1,0;"": IF IN
KEY$<>"B" AND INKEY$<>"M" THEN N
EXT B
135 IF B=0 THEN PRINT AT 21,0;"
140 FOR D=0 TO 25: IF B=B AND D
=25 THEN PRINT AT B,25,"0" LET
D=0: LET D=0
145 FOR F=1 TO 21 STEP 2
150 IF B>0 THEN NEXT F
155 IF B=0 END D=0 THEN BEEP .3
40
200 GO SUB LINE
210 IF B=1 AND D=25 THEN LET SC
ORE=SCORE+10
220 IF B=3 AND D=25 THEN LET SC
ORE=SCORE+20
225 IF B=5 AND D=25 THEN LET SC
ORE=SCORE+40
230 IF B=7 AND D=25 THEN LET SC
ORE=SCORE+60
235 IF B=9 AND D=25 THEN LET SC
ORE=SCORE+80
240 IF B=11 AND D=25 THEN LET S
CORE=SCORE+100 IF D=25 THEN BEE
P .2,30. BEEP .3,25: LET GO=GO-1
245 IF B=13 AND D=25 THEN LET S
CORE=SCORE+80
250 IF B=15 AND D=25 THEN LET S
CORE=SCORE+60
255 IF B=17 AND D=25 THEN LET S
CORE=SCORE+40
260 IF B=19 AND D=25 THEN LET S
CORE=SCORE+20
265 IF B=21 AND D=25 THEN LET S
CORE=SCORE+10
270 IF SCREEN$(B,D+2)=CHR$ 44
THEN GO SUB 1000
275 IF SCREEN$(B,D+2)=CHR$ 45
THEN GO SUB 1500: LET B=0: LET D
=0
280 IF D=25 AND (GO<=0) THEN LE
T GO=GO+1: PRINT #1; AT 1,1; INK
7; INVERSE 1; "GO:"; GO
285 IF SCORE>HI THEN PRINT #1; A
T 1,1; INK 6; PAPER 9; INVERSE
1; "HI SCORE "; SCORE: IF SCORE<HI
THEN LET HI=HI: PRINT #1; AT 1,1
9; INK 6; PAPER 9; "HI SCORE "; HI
290 PRINT #1; AT 1,7; INK 7; INU
ERSE 1; "SCORE: "; SCORE: IF SCORE
<HI THEN PRINT #1; AT 1,19; INK 6
; PAPER 9; INVERSE 1; "HI-SCORE "
; HI
295 IF SCORE>HI THEN LET HI=SC
ORE: PRINT #1; AT 1,19; INK 6; PA

```

```

PER 9; INVERSE 1; "HI SCORE "; SCO
RE
300 IF SCORE>=1000 THEN GO SUB
3000
305 IF GO>=10 THEN GO TO 1000
310 IF B<>0 AND D=0 THEN PRINT
AT B-1,D-1;"": IF D=0 THEN PRIN
T AT B-1,D;"": PRINT AT 21,0;"
": IF B=21 AND GO<=9 THEN LET G
O=GO+1: PRINT #1; PAPER 7; INK 4
; AT 1,4; GO
315 IF B>=21 THEN LET B=0: IF D
=0 AND B<=21 THEN LET B=B+1
320 LET M=0: IF D=25 AND B=2 OR
B=4 OR B=6 OR B=8 OR B=10 OR B=
12 OR B=14 OR B=16 OR B=18 OR B=
20 THEN PRINT AT B,24;" "
325 IF B<>0 AND INKEY$="B" OR I
NKEY$="M" OR D>0 AND D<=31 THEN
NEXT D
330 NEXT B: GO TO 325
335 PRINT #1; AT 1,1; INK 7; INV
ERSE 1; "GO:"; GO
400 GO TO 270
1000 PAUSE 20: CLS IF SCORE>=H
; THEN PRINT AT 8,10; FLASH 1, B
RIGHT 1; INK 6; "WELL DONE!!!"; AT
10,0; "A NEW HI-SCORE!!!"; AT 12,
14,HI. BEEP .01,0: FOR E=1 TO 21
STEP 2: FOR E=21 TO -21 STEP -2
: BEEP .05,E: BEEP .02,0: NEXT E
: PAUSE 5
1002 IF SCORE<HI THEN PRINT AT 8
11 "SCORE: "; SCORE; AT 8,8; "HI-S
CORE "; HI
1005 PAUSE 100: CLS: FLASH 0. B
RIGHT 0. BORDER 4: PAPER 4: INK
9: PRINT AT B,24; FLASH 0;"", AT
0,4; PAPER 4; INK 9; "Another 98
%e 7 (YES IN)0" PRINT #1; AT
1,7; INK 7; INVERSE 1; "SCORE: "
; SCORE; AT 1,19; "HI SCORE "; HI
1008 IF INKEY$="" THEN GO TO 100
8
1010 CLS: FLASH 0: INK 9: IF IN
KEY$="Y" THEN GO TO 30
1015 IF INKEY$="N" THEN STOP
1020 RETURN
1500 PRINT AT B,D; PAPER 5; INK
2; FLASH 1; BRIGHT 1; "BOOM" AT
B,D-1;"", AT B,D-1; INK 4; PAPER
4; FLASH 0: LET GO=GO+1
1505 FOR A=0 TO 5
1510 BEEP .01,-12. BEEP .04,-15.
NEXT A
1520 RETURN
1500 LET Q=20*INT (RAND*5)+20
1502 PRINT AT B,D+3; PAPER 4; BR
IGHT 1,Q: LET SCORE=SCORE+Q. BEE
P .2,40. BEEP .25,40: RETURN
1505 FOR C=1 TO 10
1505 LET B=2*INT (RAND*10+1)
1510 LET D=2*INT (RAND*10+1)
1515 PRINT AT B,B; INK 4;"..": N
EXT C
2020 RETURN
2500 FOR H=1 TO 6
2505 LET BB=1+2*INT (RAND*9-1)
2510 LET BB=2*INT (RAND*10+1)
2515 PRINT AT BB,BB; INK 4;"..":
NEXT H
2520 RETURN
3020 CLS: BORDER 5; INK 2; BRIG
HT 1; FLASH 1: PRINT AT 4,5; "C
ONGRATULATIONS"; AT 18,5; "YOU
R SCORE OF "; SCORE; " "; AT 19,3
; "HAS WON YOU THE CUP!";
3040 FLASH 0: PRINT AT 9,14; INK
6; PAPER 4;"": AT 9,14;"":
AT 10,14;"": AT 11,14;"": AT
12,14;"": AT 13,14;"": AT 1
4,14; INK 1;"": AT 15,14;"":
: GO SUB 4500: FLASH 0: BRIGHT 0
: GO TO 1005
3050 RETURN
4020 THEN PRINT AT B,D;"", AT B,24,
"": AT B,0;"": LET D=D+1: GO TO
4020
4050 RETURN
4120 IF B<>0 AND D<>0 AND D<=24
AND INKEY$="B" OR INKEY$="M" THE
N LET D=24: PRINT AT B,D;"", A
T B,24;"": AT B,0;"": GO TO 41

```

SPECTRUM PROGRAM

```

20
4150 RETURN
4220 IF b<>0 AND d<>0 AND d<=24
THEN PRINT AT b,d-1;"  " AT b,
24;"  ",AT b,0;"  "; LET d=d+1
4260 RETURN
4300 PRINT AT 2,11;"BAGATELLE"
4305 PRINT AT 6,2;"For a FAST ga
me - PRESS F";AT 12,2;"For a S
LOWER game";AT 14,12;"(with Max
ards and";" Bonus points)
- PRESS S";AT 8,2;"For a RAPID
game - PRESS R"
4308 PRINT AT 18,2;"BEWARE of th
e Minesfields"
4310 IF INKEY$="" THEN GO TO 431
0
4320 IF INKEY$="F" OR INKEY$="F"
THEN LET LINE=4000:CLS
4330 IF INKEY$="S" OR INKEY$="S"
THEN LET LINE=4200:CLS
4340 IF INKEY$="F" OR INKEY$="R"
THEN LET LINE=4100:CLS
4360 CLS:RETURN
4500 FOR x=0 TO 2:LET d=.01:FO
R e=-5 TO 45: BEEP d,e+5*x:FOR
r=1 TO 6: BORDER 3: BORDER 2: BO
RDER 6: BORDER 7: FLASH 1: NEXT
e NEXT x: NEXT r
4600 RETURN
6000 CLEAR 32999
6005 PRINT AT 10,10,"Please wait"
6010 DATA "A": LET a$="3C7EFFFF
FFF7E3C"
6012 DATA "BCDE": LET b$=a$+"000
0000000181800000000000001033C7
E18183CFFFFFFF00000000000003000"
6014 DATA "FGH": LET a$=a$+"03E5
97B7A5A7B087FF85FFFF85FF85FF8A7
E5E0A5E5E0E1"
6015 DATA "JKLM": LET a$=a$+"07
07C74747272713E1F1E0F2E2E4C3D"

```

```

0E020100000000 FFFFFFFF7E1010D0
A0 0300000000
6016 DATA "IJKL": LET a$=a$+"0
0000000000000010310101010000FFFFF0
0000000000000000000000000000000000
FFFFFF018181FFFFFF0000000000000000
6017 DATA "TU": LET a$=a$+"070F3
FFF00000000000000000000000000000"
6018 FOR l=0 TO a$+21-1
6020 LET b=PEEK 23075+256*PEEK 2
3675
6025 LET c=16*(CODE a$(l)-48)+CO
DE a$(21-48-7*16+CODE b$(l))>=E5
1-7*(CODE a$(12)+65)
6030 FOR k=1 TO c
6035 LET d$=a$(13 TO 1
6040 NEXT k
6045 GO TO 45
6050 RETURN

```



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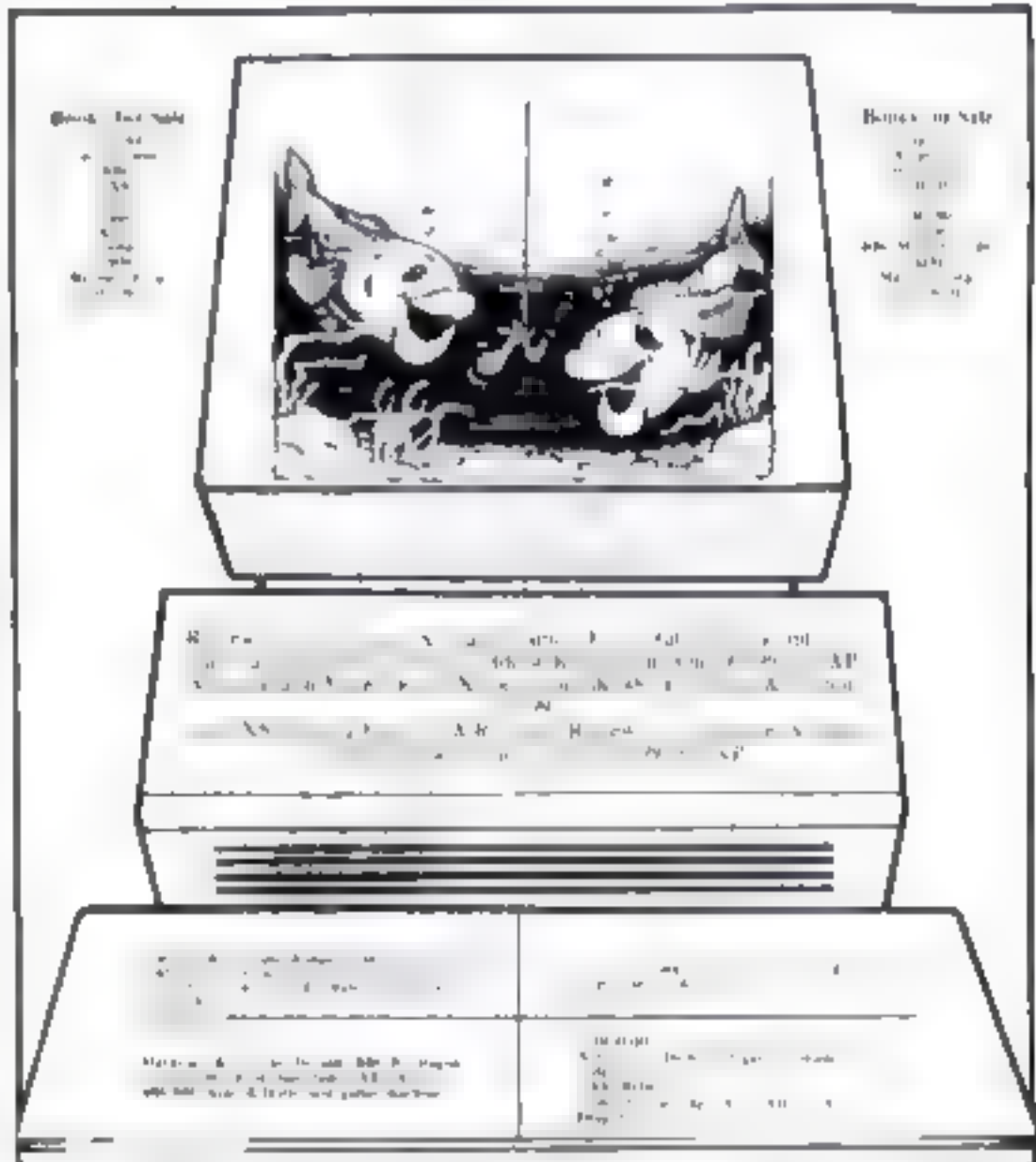
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Hello there!

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We're Webster's Software, part of the Webster's Group PLC, the £40M communications business that encompasses Bookwise, Books for Students and Felix Learning Systems. We've been set up to provide a personal computer software merchandising service to high street retailers. We've already won a number of large multiple accounts and very shortly our name will be well known in high streets throughout the country

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composed of responsible and reliable individuals able to work on their own initiative with the minimum of supervision. You will probably be aged 18 - 25, mature but also keen, ambitious and ready for your first real career opportunity. You should have enjoyed a reasonable standard of education and be able to present yourself properly to retail store management

If you have a clean driving licence and you are looking for a career path into sales and even retail sales management, you could be one of the people we are looking for. The remuneration package includes a salary circa **£5,500 00p.a.** plus a car and the sort of benefits normally associated with a large and responsible public company

Please write in the first instance, providing concise details about yourself, your education and career to date on one side of a large sheet of paper. Interviews will be held locally during late August/early September and the successful applicants will be required to start by 1st October

Marlin Corrall
Websters Software Ltd
Langham Park Catteshall Lane
Godalming, Surrey GU7 1NG.

Websters

SOFTWARE

Lord of the Barrows
Commodore 64
£6-90

Supersoft, Winchester House
Canning Road Wealdstone
Harrow, Middlesex

This is a skilfully humorous game which, in spite of its simple nature, I found both difficult and addictive.

The plot is not original. You lead a party of five assistants in a search through a multi-level cave system to locate five artifacts.

Your gang of helpers is a mixed bunch, including a warrior, an Amazon and a Hobbit. With them you have to fight sundry beasts which bar your way.

The game uses standard Commodore graphics characters (I

believe it to be a converted PET program) but gives an effective plan of the caves. Until you locate a certain object, you can see only the room you are currently in.

The use of sound is good and not excessive. I was impressed by the humour of the textual portions including the rather nice fight routine.

The game uses single-key commands and it was occasionally difficult to remember which key performs what. On the plus side, the instructions were excellent.

At the price this game offers excellent value and will occupy you for many an hour. **A.W.**

instructions	100%
playability	80%
graphics	70%
value for money	90%



Mythological meanderings

Emerging from the mists of time, our reviewers tell you whether these adventures are the stuff that software legends are made of

Franklin's Tomb
Dragon 32
£9.95

Salamander, 17 Norfolk Road,
Brighton, East Sussex BN1 4AA

An illustrated booklet helps to visualize the many scenarios of this textual adventure game. Look closely and you might find the essential clues for solving the many puzzles.

This is a very good quality text adventure that is an amusing romp from start to wherever you get stuck. Written in BASIC you can cheat a little, not a lot, and peek at some of the data statements — but of course you wouldn't do that!

A nice feature is the status screen, which shows the current

situation, inventory and the responses to your statements. A save game facility allows you to carry on from where you left off.

Essentially all these games must remain a mystery so I won't give anything away. However, it does offer a real incentive whereby if you solve the puzzle of the crypt you will gain clues to other adventures coming soon.

It's got plenty to keep you guessing, it's very entertaining and it's something that has absorbed a lot of my time. Salamander has maintained its usual high quality but it's a bit pricey. Hold on to the carrots and good luck! **M.P.**

instructions	80%
playability	80%
graphics	70%
value for money	80%



The White Barrows
48K Spectrum
£6.50

ASP Software, 145 Charing
Cross Road, London WC2 0FF

This is a game of logic in which you travel through a maze of chambers beneath the White Barrows (barrows as in burial mound not wheelbarrows, silly). Your aim is to trap an evil sorcerer and take from him a stolen

chalice. There are on-screen plans to guide you. You move about by entering the number of the appropriate room. As you progress the usual hazards appear: monsters, dwarves or gnomes who can be helpful if you bribe them from the 500 units of magic you start with.

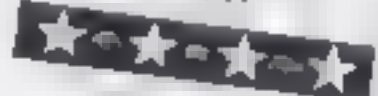
Otherwise, you may have to transport, stun or burn a friend or creature — and I advise you to keep your supply of magic to trap the sorcerer. You have ways to block up entrances and can see his escape.

White Barrows is a difficult game. It's very easy to be killed before you can compare your quest.

But I don't really feel it's an adventure you will get attached to. I could do with more action and moving graphics.

C. McC

instructions	60%
playability	60%
graphics	40%
value for money	75%



Troll King
TI-99/4A £8

Lantern Software, 4 Haffenden
Road, Tenterden TN30 6QD

The evil Troll King is holding the Queen captive in his castle and it is your mission, as a brave and fearless hero, to rescue her. But you're not on your own. You carry out your task with the help of a small dwarf who occasionally assists you at various stages of the adventure.

There are no graphics in this game, and colour and sound are hardly used at all.

Unfortunately, there are no instructions either, so you don't find out the object of the adventure until part way through when the dwarf tells you.

A lot of thought has obviously gone into this program, and it

has been cleverly written. But as the computer often comes up with the phrase 'I don't understand' when you input instructions, it can become very frustrating, and is rather overpriced at £8.

instructions	0%
playability	60%
graphics	0%
value for money	50%



Escape from Perilous
Atari 400/800
£14.95

English Software, 50 Newton St,
Piccadilly, Manchester M1 2EA

This game appears to be the Mark 2 version of English Software's Time Warp. The idea is to guide a little man around the screen to pick up four treasures, whilst avoiding the 'demons' that follow you.

The man is more detailed, the background better planned, but still the game lacks something.

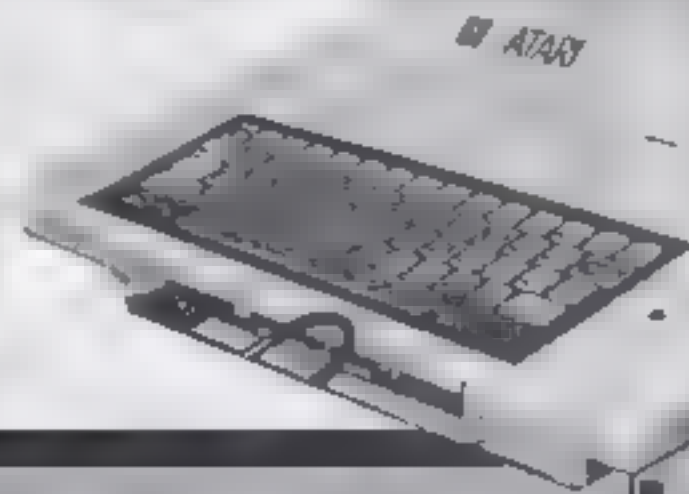
You can walk for screens without seeing anything, and the two monster types are easily avoided. There are three levels to go through.

Somehow I found my way out of the gardens into the caverns,

but there was still a lack of activity — perhaps the monsters were on a lunch break?

An idea that needs developing considerably before it will provide a good game. **M.F.**

instructions	60%
playability	10%
graphics	40%
value for money	20%



Setting the PASE in software

At PASE's shop at 213-215 Market Street, Hyde, software and micros used to rub shoulders with burglar alarms — a relic of the firm's engineering background. Its MD, John Raduch, originally had plans to start an engineering business. Hence the name, which stands for Process Automation Systems Engineering.

But now, 18 months after the shop's opening, the computer business has completely taken over the premises, and the burglar alarms have been moved off down the road.

PASE has been selling other people's software for some time. But wasn't until April that it started off its own software venture, Pasesoft.

Since then, though, it hasn't been hanging about. It already has 24 titles, and stands out from the crowd because of the number of machines it covers. It has programs for the BBC, VIC, ZX81, Dragon, Lynx, Oric, TI-99/4A and Spectrum — though some machines are covered better than others.

Computer games buyers tend to be young, and it probably helps that PASE has a young manager, eighteen-year-old Tony Reid. Tony approaches the software market from the viewpoint of an avid arcade-goer and computer games player. When I spoke to him, he was celebrating his highest score yet on TI's *Parsec*: 124,000.

It was Tony who gave John Raduch the idea of starting Pasesoft, when he approached him with some VIC-20 and BBC programs he had written. Tony had previously tried to sell the programs through his own company, Ozark Software, but the business never really took off. "I had no capital to invest in promotion", he said.

But with the backing of PASE, the programs started to sell. They were joined by *Paseman*, a BBC program written by PASE's engineer Ken Williams, then Tony wrote some programs for the Oric. Now most of the programs come from freelancers, "mainly 16 to 18 year olds who come into the shop on Saturdays", according to Tony.

Tony himself doesn't have time for programming during the day. He's kept too busy running the software business — which includes taking care of tape duplicating. All the copying is still done in-house, using banks of cassette recorders linked up to a reel-to-reel.

And no doubt bearing in mind his own experience of trying to set up in business, Tony has been writing round to all the small software companies he finds in the classified ads section, with a view

Pasesoft's aim is to be comprehensive — and with 24 programs covering eight micros, it seems well on the way to achieving that aim. Tony Reid, the company's alien-zapping manager, talked to Candice Goodwin about what else Pasesoft has up its sleeve

to taking over the marketing of their programs too.

Often he doesn't get home until nine in the evening, "and then it's straight on to the Oric and programming until midnight." Tony still has a soft spot for the BBC micro he used to work on, "because it's such a brilliant machine", but commercial pressures have influenced his taste. "I like the Oric because the software written on it is earning me money", he says.

Looking at the Oric more objectively, Tony thinks that "the

Oric's unreliable in some respects — loading and saving could be improved — but it's got very good sound. The hi-res graphics are good — it compares with the BBC on mode 7. I think it's an underestimated machine."

PASE has eight titles for the Oric, and finds that because of the shortage of Oric software, they sell like hot cakes. Inquiries have come from as far a field as Australia, Norway and France.

More Oric software is planned. But the next PASE release will be a batch of programs for the Spec-

trum and for the TI 99/4A in Extended Basic.

PASE doesn't just sell its own brand of software. It has already brought out a joystick interface which enables the Oric to use any VIC or Atari joystick.

Planned for the future is a motherboard which lets Oric owners blow their own EPROM chips. The finished chips would slot into the motherboard and work like a software cartridge.

These two products are the grandchildren of Ian Dyson, the "electronics genius" who also wrote PASE's Oric disassembler. But electronic wizardry is just a freelance job for Ian, who works full-time for Oldham Batteries.

PASE is currently gearing itself up for what Tony expects to be the peak of the software this Christmas. The company has several irons in the fire.

Most of its software business is done by mail order, but it's also opening new shops in Stockport and Rotherham, and supplying increasing amounts of both computers and software to other computer retailers.

And it's keeping in touch with local computer enthusiasts by getting involved in local clubs and school events.

It lends computers, TVs and tape recorders to the Tameside computer club, which now has 30 members.

And it sometimes takes stalls at local school fairs and organises competitions. "For example, we might give away a ZX81 to whoever gets the highest score in one of our games," Tony said. "It all helps to spread our name around."



Four of the PASEmen — from left, Laurence Holt, software writer, Tony Reid, manager, Ken Williams, engineer, and Bill Haydon, shopfloor manager

4 Letter Word
Atari
£6.50

Soflow, 162 Leicester Road, Narborough, Leics

An unimaginative title for a game that hardly stretches the Atari to its limits

Choosing a one-player game will prompt the computer to select a four-letter word from memory. Your task is to deduce the word by transposing four letters

The computer will help by indicating the correct position of letter, or correct choice of letter, after every four entries

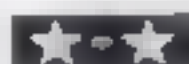
A two-player game involves your opponent picking the target word. Score is calculated according to time taken and guesses made

4 Letter Word is written in BASIC. No use is made of sound

The game is fun and could be of educational value for small children, but more should be expected of a program designed for the 16k Atari

T.A.

instructions	50%
ease of use	45%
display	35%
value for money	40%



World Geography
BBC £8.95

Program Power, 8/8A Regent St, Chapel Allerton, Leeds LS7 4PE

The program starts by drawing a really excellent high resolution map of the world in blue and yellow which, once drawn, calls up the second part of the program comprising the tests. All the instructions are displayed on the screen just under the map and are easy to understand

The interactive part of the program consists of a straight forward question and answer sessions which first ask if

you want to answer questions on capitals, populations or both; and the give a choice of eight levels of difficulty

The first level tests well known countries but the top level would demand better than average geographical knowledge. Help is given by a spot of light which appears on the map at the approximate position of the country in question

J.D.

instructions	80%
ease of use	40%
display	70%
value for money	60%



Programs that have learning taped

Our reviewers investigate a batch of educational programs for a selection of micros

Amazing Dragon 32
£5.95

Bamby, Leverburgh, Isle of Harris PA83 3TX

A new company on the Dragon scene offering to "help develop hand and eye co-ordination, to aid in teaching conceptual thought and to form an introduction to computers for young children". I tried it on four children aged five, six, seven and eight. Admittedly the blurb mentions pre-school children and that should be borne in mind. Five mazes are presented using the hi-res screens in

order of difficulty selected by the user. A cursor is moved by the arrow keys to a final point

One of the problems is that there are only five mazes with no variations. Very limiting. There was little to encourage them to repeat the journey and no variety to reinforce anything learned

There must be a real market for 'inv tots' software but it has to be more stimulating than this

M.P.

instructions	80%
ease of use	60%
display	50%
value for money	20%



Chemistry
BBC £6.95

Program Power, 8/8A Regent St, Chapel Allerton, Leeds LS7 4PE

This program uses the idea of a fruit machine with three windows, one giving the type of element, one giving the symbol or atomic number, and the other name of the element.

There are 10 jackpots to win in each game and are won by the player pressing a key whenever all the windows relate to one element.

You enter your name and skill level before each game, and there are four skill levels. These claim to range from

beginner to professor, but this is an exaggeration

The graphics, apart from the moving handle of the fruit machine, are poor and fairly static. The noise, and I use the word deliberately, accurately imitates that of a real machine and quickly becomes very tiring. Fortunately it can be turned off.

The whole game is repetitive and rather trivial so unless there are two or more players one would quickly tire of it

J.D.

instructions	50%
ease of use	40%
display	40%
value for money	50%



HighFlyer
BBC B £5.95

G.T.M. York Road, Leeds, program for junior/middle schools or remedial classes

An educational program to give practice and tests on homophones (similar sounding words, like hear and here)

Correct answers an aeroplane on its flight from London to Paris. Seven or more is successful, less than seven crashes

Excellent error trapping, good use of colour/graphics in mode 7, and very easy to use

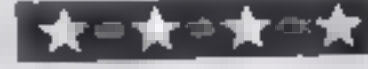
Twenty-nine sets of 10 sentences are supplied, which takes up a massive amount of memory. A limited but useful

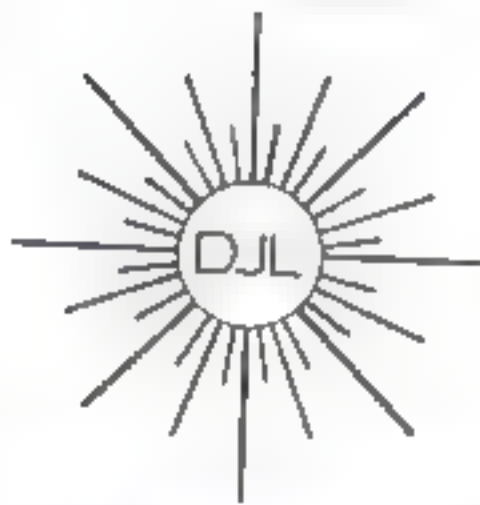
Instructions are on screen and on duplicated sheets and are very comprehensive

The construction of this program does not allow for modification of the sentences by the teacher/parent, though

R.F.

instructions	96%
ease of use	73%
display	79%
value for money	80%

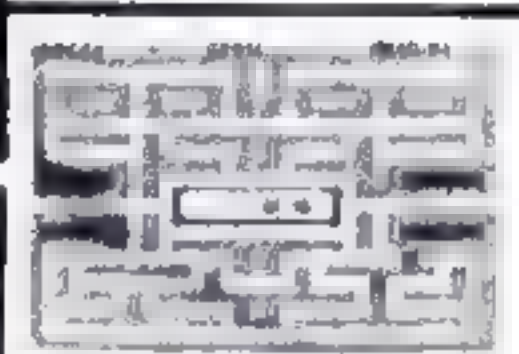




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Get a terrific tan and find clothes that fit you

In this exclusive Holiday Special we help you get a great tan and ensure you choose the right size when shopping for clothes abroad. The programs, by HCW regulars Ray Elder and Allen Webb, are for the BBC micro, Spectrum and unexpanded VIC-20

You expect a terrific tan when you go on holiday. As many of us are disappointed to discover, few clothes will do the job. The Holiday Shopping Week Special will help you to buy the right clothes.

The programs are available for the Spectrum, unexpanded VIC-20 and BBC micro. We discuss what to buy, how to buy it, and how to get the most out of your holiday. The programs are available on a 5.25 inch floppy disk.

The sun tan programs are available on a 5.25 inch floppy disk. They will be out of the shelves of all our products.

Remember, a great tan will do you good. It is a good sign of a healthy body. So, it is a consideration.

When you are on holiday, you will find that the clothes you buy will be the best. They will be the best of their kind.

The best advice is to buy clothes that will last. They will be the best of their kind.

You will be able to buy clothes that will last. They will be the best of their kind.

Let a secret light in your eyes. The secret light in your eyes will be the best of their kind. They will be the best of their kind.

Your precious skin can be destroyed by sunburn. So, it is a good sign of a healthy body. So, it is a consideration.

Neck and face need a lot of SPF. For more information, see our skin type and how to use more frequent applications.

If you become sunburned, you will be the best of their kind.

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VIC-20 programs by Allen Webb

VIC-20 suntan program

```

1 PRINT "DOES SUN TAN LOT ON GARDEN"
2 PRINT "DO YOU WANT INSTRUCTIONS?"
3 GET IS IF B="Y" THEN
4 IF B="Y" THEN
5 PRINT "1. SENSITIVE - ALWAYS BURNS EASILY OR NEVER TANS."
6 PRINT "2. SENSITIVE - ALWAYS BURNS OR TANS AT ALL."
7 PRINT "3. LIGHT BROWN/COPPER BURNS MODERATELY OR TANS GRADUALLY."
8 PRINT "4. INSENSITIVE - RARELY BURNS OR TANS WELL."
9 PRINT "5. INSENSITIVE - NEVER BURNS OR DEEPLY PIGMENTED."
10 PRINT "WHAT IS YOUR SKIN TYPE?"
11 GET IS IF B="1" OR B="2" THEN
12 ON VAL IS GOTO 12, 30, 30, 40
13 PRINT "SENSITIVE SKIN"
14 PRINT "MILK REQUIRED"
15 PRINT "SUNSPR 15"
16 PRINT "MILK"
17 PRINT "APPLY LOTION LIBERALLY TO ALL EXPOSED AREAS. APPLY AT LEAST 6 TIMES PER DAY"
18 PRINT "MILK"
19 PRINT "APPLY LOTION LIBERALLY TO ALL EXPOSED AREAS. APPLY AT LEAST 6 TIMES PER DAY"
20 GOTO 56
21 PRINT "SENSITIVE SKIN"
22 PRINT "MILK REQUIRED"
23 PRINT "SUNSPR 5 SPF 8 OR 6"
24 PRINT "MILK"
25 PRINT "APPLY SPF 8 LOTION TO ALL EXPOSED AREAS. USE SPF 15 LOTION ON NOSE AND EARS."
26 PRINT "FEET AND SHINS. 30 MINUTES EACH SIDE"
27 PRINT "MILK"
28 PRINT "USE SPF 8 OR 6 30 MINUTES EACH SIDE"
29 GOTO 56
30 PRINT "JOURNAL"
31 PRINT "SLOT"
32 PRINT "SPF 4"
33 PRINT "MILK"
34 PRINT "USE SPF 4 LOTION ON ALL AREAS. USE SPF 5 ON EARS. PLANT AREAS. 30 MINUTES"
35 PRINT "MILK"
36 PRINT "MILK"
37 PRINT "APPLY SPF 4 LOTION TO ALL AREAS. 30 MINUTES EACH SIDE"
38 GOTO 56
39 PRINT "THIN"
40 PRINT "MILK"
41 PRINT "MILK"
42 PRINT "MILK"
43 PRINT "MILK"
44 PRINT "MILK"
45 PRINT "MILK"
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97 PRINT "MILK"
98 PRINT "MILK"
99 PRINT "MILK"
100 PRINT "MILK"

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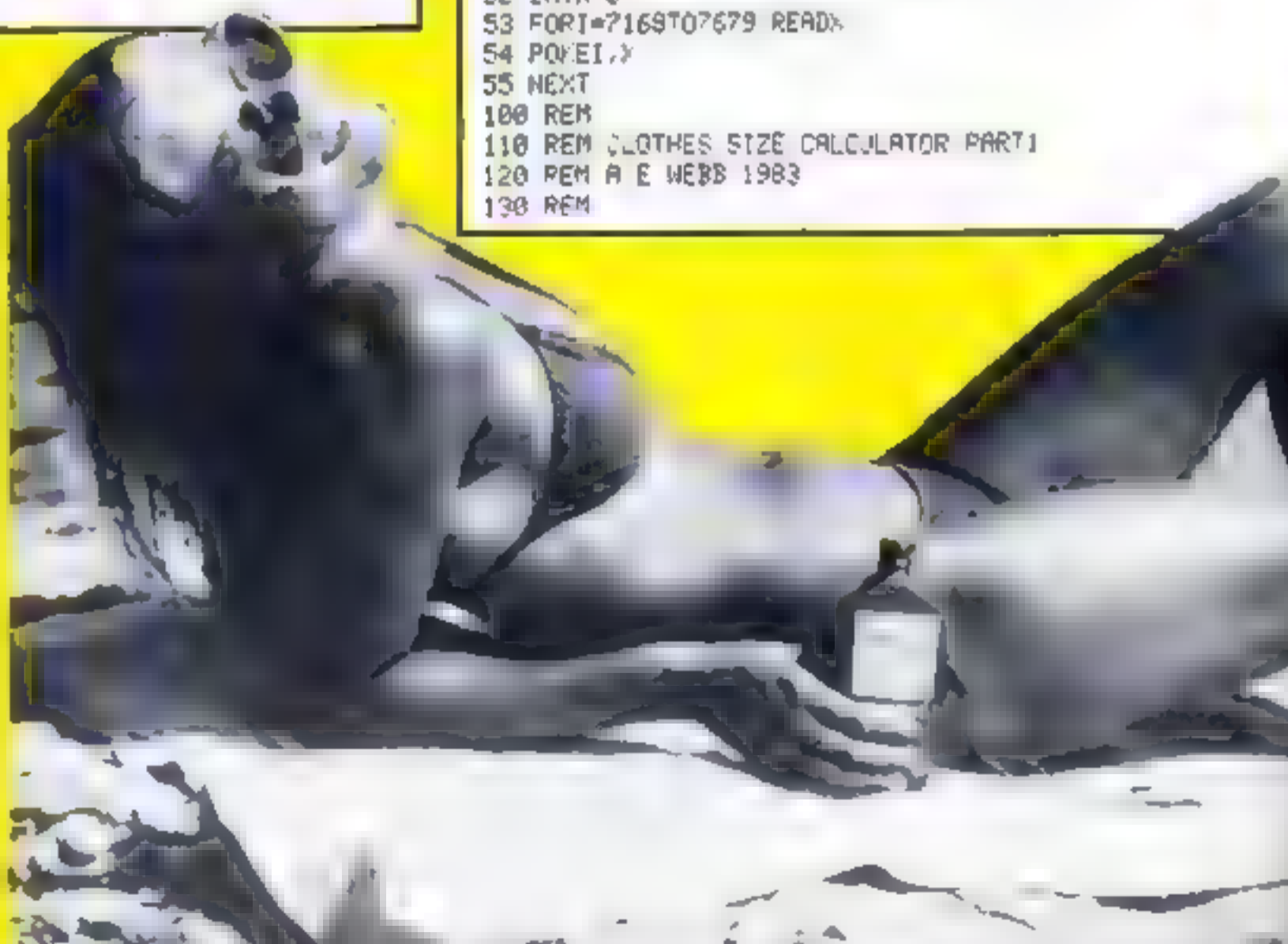
VIC-20 clothes size program part 1, loads redefined characters

```

1 DATA 2, 2, 2, 2, 2, 2, 2, 1, 24, 36, 66
2 DATA 126, 66, 66, 66, 0, 124, 34, 34, 60, 34
3 DATA 34, 124, 0, 28, 34, 64, 64, 64, 34, 28
4 DATA 0, 120, 36, 34, 34, 34, 36, 120, 0, 126
5 DATA 64, 64, 120, 64, 64, 126, 0, 126, 64, 64
6 DATA 120, 64, 64, 64, 0, 28, 34, 64, 78, 66
7 DATA 34, 28, 0, 66, 66, 66, 126, 66, 66, 66
8 DATA 0, 28, 8, 8, 8, 8, 28, 0, 14
9 DATA 4, 4, 4, 4, 68, 56, 0, 66, 68, 72
10 DATA 112, 72, 68, 66, 0, 64, 64, 64, 64, 64
11 DATA 64, 126, 0, 66, 102, 90, 90, 66, 66, 66
12 DATA 0, 66, 99, 82, 74, 70, 66, 66, 0, 24
13 DATA 36, 66, 66, 66, 36, 24, 0, 124, 66, 66
14 DATA 124, 64, 64, 64, 0, 24, 36, 66, 66, 74
15 DATA 36, 26, 0, 124, 66, 66, 124, 72, 68, 66
16 DATA 0, 60, 66, 64, 60, 2, 66, 60, 0, 62
17 DATA 0, 8, 8, 8, 8, 8, 0, 66, 66, 66
18 DATA 66, 66, 66, 60, 0, 66, 66, 66, 36, 36
19 DATA 24, 24, 0, 66, 66, 66, 90, 90, 102, 66
20 DATA 0, 66, 66, 36, 24, 36, 66, 66, 0, 34
21 DATA 34, 34, 28, 8, 8, 8, 0, 126, 2, 4
22 DATA 24, 32, 64, 126, 0, 255, 0, 0, 0, 0
23 DATA 0, 0, 0, 0, 60, 126, 126, 126, 126, 126
24 DATA 60, 128, 128, 128, 128, 128, 128, 128, 128, 0
25 DATA 0, 1, 3, 3, 3, 3, 3, 24, 255, 255
26 DATA 255, 255, 126, 126, 126, 0, 0, 0, 0, 0
27 DATA 0, 0, 0, 0, 0, 128, 192, 192, 192, 192
28 DATA 192, 3, 3, 3, 3, 2, 2, 2, 1, 60
29 DATA 60, 60, 126, 255, 255, 255, 255, 192, 192, 192
30 DATA 192, 64, 64, 64, 128, 1, 1, 1, 3, 3
31 DATA 3, 3, 0, 255, 255, 255, 255, 255, 255, 255
32 DATA 102, 126, 128, 128, 192, 192, 192, 192, 0, 0
33 DATA 0, 0, 0, 0, 0, 1, 1, 102, 102, 102
34 DATA 102, 102, 102, 231, 231, 0, 0, 0, 0, 0
35 DATA 0, 128, 128, 0, 0, 128, 194, 196, 207, 196
36 DATA 194, 0, 0, 0, 0, 0, 254, 0, 0, 192
37 DATA 192, 192, 194, 68, 79, 68, 130, 0, 0, 0
38 DATA 0, 0, 0, 0, 255, 1, 1, 1, 1, 1
39 DATA 1, 1, 1, 60, 66, 70, 90, 98, 66, 60
40 DATA 0, 0, 24, 40, 8, 0, 0, 62, 0, 60
41 DATA 66, 2, 12, 48, 64, 126, 0, 68, 66, 2
42 DATA 28, 2, 66, 60, 0, 4, 12, 20, 36, 126
43 DATA 4, 4, 0, 126, 64, 128, 4, 2, 68, 56
44 DATA 0, 28, 32, 64, 124, 66, 66, 60, 0, 126
45 DATA 66, 4, 8, 16, 16, 16, 0, 60, 66, 66
46 DATA 60, 66, 66, 60, 0, 60, 66, 66, 62, 2
47 DATA 4, 56, 0, 3, 3, 3, 3, 2, 2, 2
48 DATA 1, 0, 0, 0, 0, 0, 0, 8, 16, 35
49 DATA 36, 17, 157, 157, 157, 37, 38, 39, 17, 157
50 DATA 157, 157, 40, 41, 42, 91, 92, 93, 17, 157
51 DATA 157, 157, 94, 0, 0, 0, 60, 0, 0, 0
52 DATA 0
53 FOR I=7169 TO 7679 READ
54 POKE I,
55 NEXT
100 REM
110 REM CLOTHES SIZE CALCULATOR PART 1
120 REM A E WEBB 1983
130 REM

```

The clothes size programs use official information, but do try on the clothes. Like Britain, sizes can vary between manufacturers. All the programs include routines which draw figure outlines to make them attractive. Because of the limited memory, the VIC-20 programs are in three listings. One is for sun care and the clothes size calculator is in two parts. The first loads a set of redefined characters into memory. Simply run the two parts one after the other. And the Spectrum program has been written in such a way as to make it compatible with the ZX81. All you need to do is expand the multi-statement lines and omit the outline drawing routine.



Spectrum program by Ray Elder

```

5130 PRINT AT 0,16; INK 0;"ENTER
IN" AT 2,14, ("CENTIMETRES" AND
X$="C")+(" INCHES" AND X$="I")
5139 REM INPUT SIZES
5140 PRINT AT 6,4, INK 2;"-----"
AT 6,16, FLASH 1, "BUST (<="); INP
UT b$; FLASH 0; PRINT AT 6,16;"B
UST"; b$
5150 PRINT AT 10,4; INK 2;"-----"
AT 10,16; FLASH 1;"HIPS (<="); IN
PUT h$; FLASH 0; PRINT AT 10,16,
"HIPS"; h$
5160 INPUT "Is this correct (Y O
R N)"; g$: IF g$="N" THEN GO TO 5
170
5169 REM CALC SIZE
5170 IF x$="I" THEN GO SUB 6050
5180 LET b=VAL b$; LET h=VAL h$
LET w=83; FOR a=8 TO 32 STEP 2
IF h>w AND h<w+4 AND b>w-5 A
ND b<w-1 THEN GO TO 5200
5185 LET w=w+4+(1 AND w>94)
5190 NEXT a PRINT; FLASH 1; BR
IGHT 1, "Non standard size----Sor
ty." FLASH 0 BRIGHT 0, FOR i=1
TO 400 NEXT i RETURN
5200 LET w=w+26; GO SUB 5100
5210 LET w=w+(2 AND (f$="F" OR f
$="B"))+(4 AND (f$="I"))
5219 REM DISPLAY INFO.
5220 CLS PRINT TAB 8, "WOMEN'S
DRESS SIZES"
5230 PRINT "Your dress size in
Britain for" "the given measur
ements is" "a
5240 PRINT "In " u$ "your size
is" "a. IF f$="F" THEN PRINT
"N"
5250 GO TO 9000
5499 REM GET MENS INFO.
5500 PAPER 7; BORDER 7; CLS
5510 PRINT AT 3,0, "WAIST SIZE ?"
INPUT w$; PRINT AT 3,11, w$
5520 IF x$="C" THEN GO SUB 6000
5530 PRINT "LENGTH ?" "Enter
" TAB 7, FLASH 1, "N"; FLASH 0, "
Normal"; TAB 7, FLASH 1, "L"; FLA
SH 0, "Long"; TAB 7, FLASH 1, "S"
, FLASH 0, "Short"
5535 LET l$=INKEY$. IF l$="" OR
(l$<>"N" AND l$<>"L" AND l$<>"S"
) THEN GO TO 5535
5540 GO SUB 6100. REM GET COUNTR
Y
5541 REM CALC SIZES
5545 LET k$=l$ IF f$="G" OR f$="
I" OR f$="Y" THEN LET k$="N"
5550 LET w=VAL w$ LET w1=w
5555 IF w/2<>INT (w/2) THEN LET
w=w+1
5560 IF k$="N" THEN LET w=w+10
LET z$=("C" AND f$="S")+("0" AND
f$="N")+STR$ w+(" "+STR$ (w-6)
AND f$="F")+(" "/6) AND f$="E")
5570 IF k$="L" THEN LET w=w+10+(
42 AND (f$="D" OR f$="A"))+(11 AN
D (f$="N" OR f$="B"))-12 AND f$="
E") LET z$=("0" AND f$="N")+("
C1" AND f$="S")+STR$ w+("L"/+STR
$ (w-6)+("L" AND f$="F")+("7" AN
D f$="E")
5580 IF k$="S" AND (f$="D" OR f$
="F" OR f$="A") THEN LET w=INT (
w/2)+5. LET z$=STR$ w GO TO 560
0
5590 IF k$="S" THEN LET w=w+10-(
2 AND f$="N"); IF f$="S" THEN LE
T w=w*2
5595 IF k$="S" THEN LET z$=("6"
AND (f$="N" OR f$="B"))+("D" AND
f$="S")+STR$ w+("4" AND f$="E"
)
5599 REM DISPLAY INFO.
5600 BORDER 5 PAPER 5; CLS
5610 PRINT TAB 8, "CLOTHING SIZES"
"Your waist size is" "a1" "Len
gth is" " ("Long" AND l$="L")+("N
ormal" AND l$="N")+("Short" AND
l$="S")
5620 PRINT " (No difference is m
ade in length" "an Greece, Italy
and Yugoslavia.)"
5630 PRINT "Your size in " u$
" " BRIGHT 1, FLASH 1, " is " z$
" " FLASH 0, BRIGHT 0

```

```

5640 GO TO 9000
7999 REM cent to ins
8000 LET w=VAL w$. LET w=INT ((w
+50/128)+.5) IF w/2<>INT (w/2)
THEN LET w=w+1
8010 LET w$=STR$ w; RETURN
8049 REM INS. TO CMS.
8050 LET b=VAL b$. LET b=INT ((b
+128/50)+.5) LET b$=STR$ b LET
h=VAL h$. LET h=INT ((h+128/50)
+.5); LET h$=STR$ h RETURN
8099 REM countries select
8100 BORDER 4 PAPER 4; CLS
8110 PRINT TAB 8, "SELECT COUNTRY"
8120 PRINT "1. Germany" "2. Net
herlands" "3. France" "4. Belgi
um" "5. Greece" "6. Italy" "7.
Yugoslavia" "8. Sweden" "9. Sp
ain" "0. Austria" "1. Turkey"
8125 IF INKEY$<>"" THEN GO TO 81
25
8130 LET f$=INKEY$ IF f$="" THE
N GO TO 8130
8140 LET t$="DNFBGIYSEAT" FOR i
=1 TO 11 IF f$=t$(i) THEN LET U
$="GERMANY NETHERLANDSFRANCE
BELGIUM GREECE ITALY
YUGOSLAVIA SWEDEN SPAIN
AUSTRIA TURKEY" ((i
-1)*11+1 TO i*11) RETURN
8150 NEXT i GO TO 8130
8999 REM *input/copy subroutine*
9000 INPUT PAPER 5, "Enter ", FLA
SH 1, BRIGHT 1, "C"; FLASH 0, BRI
GHT 0, " (COPY) or ", FLASH 1, BR
IGHT 1, "N", FLASH 0, BRIGHT 0, "
INEXT)"; a$
9010 IF a$="N" THEN RETURN
9020 IF a$="C" THEN COPY RETUR
N
9030 GO TO 9000

```

```

9099 REM *input skin types*
9100 PAPER 5; BORDER 5; CLS
9110 PRINT TAB 9, "SUN AND SKIN"
9120 PRINT "Please enter the le
tter which" "represents your sk
in type"
9130 PRINT "A. ULTRA-SENSITIVE
very dry skin", TAB 19, "always bu
rns", TAB 19, "never tans."
9140 PRINT "B. VERY SENSITIVE &
lightly dry", TAB 18, "often burns
", TAB 18, "rarely tans."
9150 PRINT "C. AVERAGELY SENSIT
IVE burns but", TAB 23, "then tans
"
9160 PRINT "D. LESS SENSITIVE o
ily skin", TAB 18, "rarely burns",
TAB 18, "tans easily"
9170 INPUT "Enter A,B,C or D "; s
$
9180 IF s$(1)<("A" OR s$(1))>"D" T
HEN GO TO 9170
9190 LET s=CODE s$(1)-64
9199 REM PRESENT SUNTAN
9200 BORDER 6 PAPER 6; CLS
9210 PRINT TAB 9, "SUN AND SKIN"
9220 PRINT "Please enter your
present state" "of suntan."
9230 PRINT "A. No tan" "B. Sli
ght tan" "C. moderate tan" "D
. Good tan"
9240 INPUT "Enter A,B,C or D "; t
$
9250 IF t$(1)<("A" OR t$(1))>"D" T
HEN GO TO 9240
9259 REM CALC. SPF/MXP/5NP
9260 LET t=ABS (2-INT ((CODE t$(
1)-64)/2))
9270 LET spf=ABS (5-s)*2+t: IF s
=1=10 THEN LET spf=12
9280 IF spf=2 AND t$<"C" THEN LE
T spf=spf+1
9290 LET snp=10*s+(3 AND s=1)-15
AND s(4)
9300 LET mxp=snp*spf
9310 RETURN
9699 REM WOMAN OUTLINE DATA
9700 DATA 0,0,20,-3,20,-55,-3,-3
,-23,41,-7,-17,2,-11,1,2,-17,-
1,3,-11,-70,-10,0,0,71,0,-71,-10
,0,-11,70,2,17,-1,3,2,11,1,2,-4,
15

```


ZX81 16K software: "Moving Squares" and "Matching Pairs" — mind stimulating and memory games — three levels of difficulty. Both for £3.95 from: T. Frost, The Links, Montrose, Angus, Scotland.

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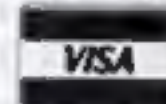
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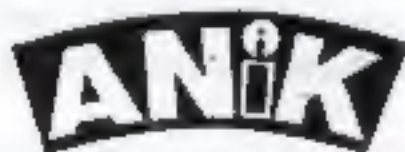
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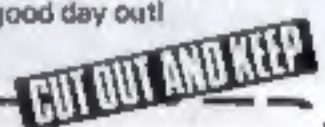


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NEWS

HUNT WINS GRAND PRIX

At yesterday's Monaco Grand Prix, a hunting party strayed onto the track at the climax of the race. Cars were halted as the hounds rampaged around the circuit. "The whole place has gone to the dogs," one driver was reported as saying. The race was restarted, riders and drivers battled bitterly around the course before the Hunt thundered past the finishing line to take the chequered flag (it hasn't been seen since).

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2 DEAD IN EVEREST TRAGEDY

The Everest Expedition ended in tragedy yesterday as Carl and F... plunged down a crevasse to a grisly death. F... the expedition leader was quoted as saying "Yuk". *Continued on page 5*

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